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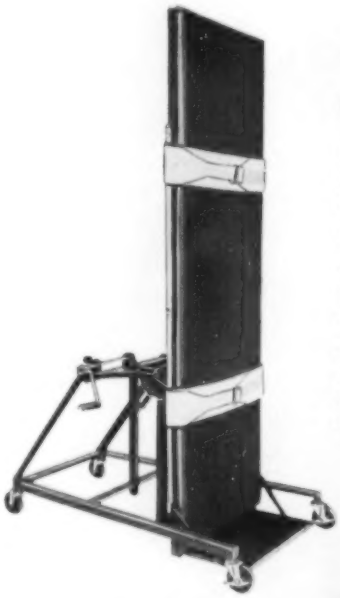

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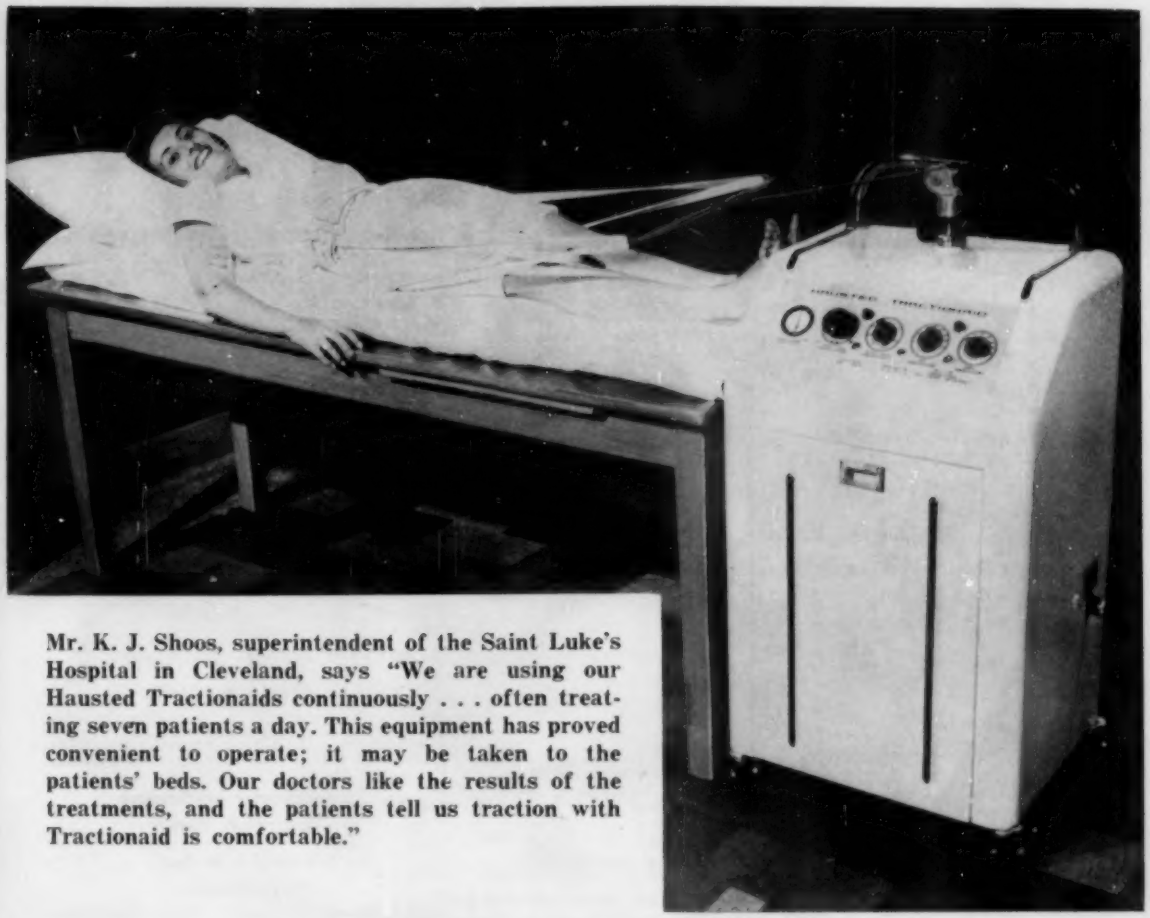

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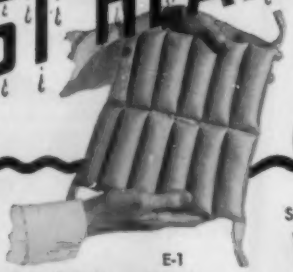

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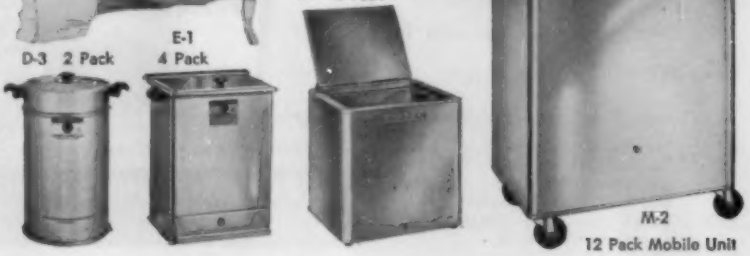

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The Physical Therapy Review

Official Publication of The American Physical Therapy Association

Laying the Cornerstone for Living Through Growth, Learning and Doing*

Louis A. Schwartz, M.D.

You have honored me with your invitation to present the keynote address on the theme of "Living through Growing, Learning and Doing." This is a significantly broad and involved assignment. I hope to be able to keynote adequately the effects of recent advances in the current philosophy of the management of the patient. I am confident that you will be inspired and stimulated by the formulation of this entire conference so thoughtfully developed by your program committee to develop your further understanding and personal satisfaction in alleviating human suffering.

The term "Cornerstone" in the title brought to mind the recent experience of the American Association for the Advancement of Science in the course of planning for their new building. The architect inquired as to whether or not the Association wanted a cornerstone. Practice varied, they were told; they could have an elaborate one with an enclosed copper vault in which the Association might bury selected mementos of science; they could have one without enclosures but with any inscription they chose; or they could have none at all. The one thing he warned them not to do was to forget to carry to completion whatever plans had been agreed upon—a lapse which left a Washington building with a cornerstone that bore only the inscription "Cornerstone." It was decided not to have anything "because the limited space usually results in paying honor to the few persons who were prominently involved during the limited segment of time when the building was being constructed, while neglecting the many others whose earlier work was at least of equal importance." If one might epitomize these comments as to our figurative cornerstone, your four day symposium to be conducted by distinguished guest speakers is planned to cover the detailed and practical data regarding the needs of the child, the adolescent, the employment years, and the aging, permitting me to discuss more basic theoretical ingredients. Apropos of this formidable task, I am reminded of James Thurber's frequently repeated comment in *Fables of Our Time*, that "it is better to know some of the questions than all of the answers." Our cornerstone inscription might well be—"We shall employ our therapeutic science in the treatment of the patient as a whole rather than purveying technical procedures to correct the diseased part only." This implies that we must think of the patient as he should be in his total representation rather than as he is at the moment. To illustrate, physical restoration should be more than the furnishing of artificial substitutes for lost parts and has no validity unless it accomplishes a rein-

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* Opening address Annual Conference of the American Physical Therapy Association, Detroit, June, 1957.

tegration of the patient's whole personality accompanied with a new appraisal by himself and by society. A man lives not only with his defect but with his sound organs as well.

Every problem concerned with living is essentially a biological one and capable of analysis and solution by application of biological principles. In the last stanza of his poem, "Die Weltweisen," Schiller declared that the edifice of the world is maintained by the impulses of hunger and love. If this poetic expression is translated into more prosaic and mundane terms, the primary and impelling motives in the lives of animals are those concerned with self preservation and reproduction. The basic necessities of individual existence and racial preservation are food, shelter, and the opportunity for reproduction. All animals seek security and in their search they relinquish certain freedoms and become more or less dependent. Concomitantly, they accept certain hazards associated with the loss of freedom. The advantages obtained are offset by coincident dangers and frequently by disastrous consequences. The surrender of freedom is often, perhaps usually, the result of fear, although often it is made on promised alleviation of distressing conditions. But the promised advantages are often illusory and the bondage imposed as a result of dependency is persistent. As an animal or group becomes dependent, recovery of an independent status becomes increasingly difficult. Thus it is with man who can be enslaved by internal or external physical, mental, social, political, or any other type of disturbance to which he may surrender.

Before discussing the category of "Growth" some attention should be drawn to the less clearly definable realm of genetics. It is well established that the form of any organism is the result of genetic and environmental factors. Its inherent potentialities are determined by its ancestry but the actual realization results from the stimuli to which it is subjected during this developmental period and from its responses to those stimuli. The ultimate form, therefore, is greatly influenced by the physiological activities of the organism during development. Goodrich[1] has aptly expressed the idea in his statement: "An organism is molded as a result of the interaction between the conditions or stimuli which make up its environment and the factors of inheritance. No single part is completely acquired, or due to inheritance alone. Characters are due to responses, and have been made anew at every generation." There appears to be a popular notion that the trend of evolution is always onward and upward but biologists are aware that this is not true. There have probably been as many retrogressive as progressive changes. Much of evolution is directional, according to geneticists and restrictions on the course of hereditary changes are doubtless to be found in the architecture of the protoplasm and particularly in its protein components. Much of the mystery of ancient times has been dispelled by the physical and chemical discoveries of the last century, and many of the riddles of living processes are being resolved. Consequently, it is reasonable according to Stunkard[2] to believe that in nature things do not happen without cause, although the cause may not be apparent. Mutations, changes in the architecture of the protoplasm, accordingly, must be induced, and their origin must lie in responses to physical or chemical change that affect the inherent structure of the living material.

Throughout[3] the animal kingdom or during human history as recorded in the evolutionary record, independence, with freedom to explore new vistas, has been the essential condition of progress, whereas the surrender of freedom in an attempt to attain security has led to bondage, regression, and degeneracy. This too can happen with human spirit. The ability to acquire and communicate knowledge has enabled man to supplement biological with cultural inheritance. The reactions of individuals and groups of the human species to various environmental situations are obviously a result of the complex interaction of these two types of heritage. Although cultural inheritance might have had its first beginnings a half-million years or more ago, it has expressed itself most spectacularly in the last half-dozen millennia. Ancient and modern civilizations with their technologies, arts, music, literature, and sciences are its product of cultural inheritance.

Genetics[4] some 10 years ago turned from the higher organisms to more elementary ones, expecting to find there, simplicity in the beginnings of genetic systems, and found instead an amazing early complexity. But, with the more plastic material, experimentation has proceeded at a breath-taking pace. Chromatography, the use tracer elements, and microchemical processes are sorting out many an old puzzle in biochemistry. The involved system by which bacteria synthesize the amino acids is falling into line, and some day we shall understand more of how these building blocks are assembled into proteins. The amazing skill of organic chemists produces for us not only duplicates of vitamins or hormones, but also derivatives and analogues of

these, and we understand the first chapter of how an antibiotic may operate, or why a vitamin is essential as the building block for an enzyme. The chemistry of muscle action is not nearly as mysterious as it was; at least we know something of the source of energy and something of the process by which chemical bonding and shortening are interrelated. In photosynthesis it appears that we are on the verge of producing the essential chemical action in vitro, with chlorophyll and its associated protein isolated intact for study. Through the understanding of heredity that man has gained within the past half-century, he has acquired the power to direct the evolutionary futures of the animals he domesticates and the plants he cultivates. At the same time and in the same way, he has won the knowledge that makes it possible deliberately to determine the course of his own biological evolution. He is in a position to transcend the limitations of the natural selection that have for so long set his course. From the phylogenetic point of view with the increasing role of the cerebral cortex in the regulation of physiological homeostasis in higher animals, especially in man, there are developed greater possibilities for impingement of psychological factors on various visceral and somatic functions. These visceral responses are present at birth and are "feeling" experiences. Without previous training in the newborn, reflex activity such as sneezing, coughing, sucking, and alimentary functions take place. Beginning at about the sixth month manual activities, walking, postural control, and ability to coordinate are noted. Finally with the onset of verbal phenomena which represents the highest functions in the child we see the onset of cortical activity. A verbal signal by conditioning can put the visceral and manual functions into action. The early thinking of the child has to do with fantasy power, credulity, imagination, omnipotence of thought, and day dreams in which the functioning of these responses can later compensate for frustration and thereby furnish a haven for retreat when reality becomes too difficult. Fears, hates, and rebellion all reside equally herein. Habit patterns and attributes of personality become ingrained. Symptomatic behavior such as obstinacy or stubbornness can be the representatives of hostility. Stubbornness may be hidden by an excessive docility. These phenomena represent the unconscious. Organic defects as they impinge upon the developing personality can result from the direct effect of the organic disease upon the nervous system, either congenital or acquired. Then there are the attitudes which develop as a result of organic defect, such as overcompensation, feelings of inferiority, or denial and other types of defense; and finally the effects of physiological imbalance, such as those following hypo- or hypersecretion of hormonal secretions. If the infant is to survive, his nutritional relationship with his mother is of paramount importance. Pending sufficient maturational developement, a satisfactory vegetative adaptation is necessary. As this continues, there develops a self initiative and active mastery of life. In this connection there is an interesting contrast to the problem of aging. Emotional problems of the elderly are likewise problems of adaptation—to maintain a successful existence and physiological homeostasis under the environmental conditions. Physiological homeostasis is the principle whereby the body reacts to changes in its temperature, water content, salt content, calcium and phosphorous content. A physiological need generates a psychological need and the appropriate behavior restores the proper balance. Such successful adaptation involves for both young children and the aged the organismic power and capacity for functioning plus the presence of adequate tasks necessary to perform. The aging person has these rudimentary elements requiring tasks necessary for survival. While the infant develops from helplessness to self sufficiency, the elder is losing self sufficiency and gradually can become helpless. It is necessary to assist the infant in finding an identity for himself, while with the elder there is a decreasing sense of mastering the environment and security. Maintenance of self respect is most important for the aging. In the aging process the problems of coordination, locomotion, and other special motor activities become more difficult. The contrast between the young child's integration and the aging process is characterized by the increasing integration of organic functioning in the child while those of the aging person decline. It has been claimed that the learning curve begins to drop significantly in the early twenties and the reaction time begins to increase. Recent observations seem to indicate that elderly persons can learn and function at higher intellectual levels depending upon organic condition and motivation. The aged suffer from involution in vegetative organ functioning which is less able to balance compensation. The helpless child will be coddled by its mother but the helpless grandparent may meet with short shrift when seeking tender care. His memory will then be used to relive past glory while his heart is empty of hope. Unfortunately the concept of "second childhood"

with its helplessness is too often thought to be the fate and the inevitable picture of old age.

Attention should be called to the most significant and crucial period following birth; namely, the symbiotic mother-infant relationship which implies a need of love and tenderness through close body contact and a sustained nutritional relationship of the infant to his mother. Psychologically the baby can be considered as an extension of the mother. This relationship must be satisfactory and complete. Infants who have suffered from early maternal deprivation by death or desertion of the mother exhibit tragic damage. The deprivation in early infancy of the close loving contact with the mother has resulted in a condition Spitz has described an "anaclytic depression" characterized by severe melancholy, apathy and emaciation, with premature death due to susceptibility of infection.

Deserted young children in war torn France developed perseveration and stereotyping of movements, resembling and acting like mentally defective children. These irritable children cried out in anguish when picked up and would fall into a cataplectic-like state. Maternally deprived children to this extreme degree are retarded in motor responses, refuse to walk, and then walk much later than normal. Muscular coordination is underdeveloped and interests and responses to social stimuli are those of defective children. They remain apathetic, take little or no interest in toys, and remain somber and melancholy, showing no initiative or spontaneity. The therapist has passively to await any expression of interest or responsiveness by the child, and when such appear, advances of warmth, such as extending arms to the child to be picked up, are instituted but only when the child himself initiates a wish. Brusqueness, seemingly sudden threatening movements toward the child and no forceful manipulation should be utilized. These children require thoughtful permissiveness to allay fright. Children treated in this manner after a period of time become more secure by the continuation of this protective warmth and gradually motor coordination can develop as well as gradual mental and emotional development.

There should be cited also the learning experience in white rats who were coddled by the laboratory technician and later exhibited less reflex fear and automation. Mirsky described the transmission of affects in monkeys by reactivating pain which had been forgotten and then reappeared when another monkey was observed suffering from the same painful stimulus. Newborn lambs deprived of being nuzzled by the mother ewe isolate themselves from the herd and die prematurely. Some animal species will die as cubs unless taught micturition by the mother. Every infant therefore has to adjust itself to change in its biological situation after birth. Each child at first depends to a high degree upon the mother for its nutrition, no matter whether it is breast fed or bottle fed. This type of nutrition gradually changes to a more independent form, in which the child's organism has to participate more actively. This change is dependent upon another biological change, on dentition. A similar revolutionary change takes place when the child learns to walk and to speak, two new important steps on the road toward independence. These faculties develop at a certain period after birth, although certain quantitative differences which may be culturally determined are of great importance.

Sexual maturation is another turning point in the person's development and is also responsible for a new and fundamental change in the emotional outlook. The process of maturation means the renunciation of earlier expression of gratification in favor of newer modes of satisfaction and the growing personality is expected to live up to its new biological status. The well-known difficulties of puberty are the best testimony of this. The uncertainty of the adolescent is due to the fact that the mature sexual drive is incompatible with emotional dependence upon the parents.

Senescence is the last universal change which requires new adjustment on the part of man. The important fact which primarily concerns us here is that every individual develops gradually from a biologically and socially dependent creature into a more or less independent human being who has to take care of his own existence and then becomes responsible for the care of others. Psychoanalytic experience shows now that a regressive tendency which works in the opposite direction to this process of maturation is present in every human being. Every phase of the biological development may serve as a point of fixation. After the child has learned one method of satisfying his biological needs, he has the tendency to stick to this. Every new phase which the inexorable course of biological development requires means a new problem of adjustment—that is to say, of learning. Whenever a person encounters difficulties in his existence, he is apt to be thrown back upon earlier forms of expression. Every neurosis or psychosis is essentially such a regressive process. The diffi-

culties of accepting these consecutive steps of biological development may be increased or diminshed through external, socially conditional influences, but they cannot be entirely eliminated. It is obvious, for example, that the customs[6] of child nursing or the amount of independence required of a child at various ages differ in different civilizations and must have an important influence on the child's development. On the other hand, the individual differences in the mother's attitude within the same civilization are so large that we can always find a mother whose attitude is atypical in her own civilization, but would correspond to the average attitude in another. She might, for example, be overindulgent according to our ideas, but would be considered normal in some other culture, in which mothers wean their children from the breast much later.

After the individual has acquired his biological maturity, he soon becomes socially independent also; that is to say, he must take care not only of himself, but also of his family. At this phase a new difficulty arises which is almost entirely of a sociological nature—the difficulty of economic existence, the economic insecurity that is so characteristic of our own civilization. We know well the paramount influence of fear in the causation of neurosis. Fear is what induces individuals to a flight from reality to fantasy, which can carry them back into happier periods of their lives when they felt secure and satisfied. This regression can take place only in phantasy, because in reality it is not given to any person to reassume the happy situations of his childhood. Economic insecurity unquestionably is one important precipitating factor in neurosis. On the other hand, analytical experience teaches us that the resistance of a person in the struggle for existence is dependent upon the experience of his early childhood. The ability to endure difficulties varies, according to successes and failures during the processes of biological maturation. Maturation involves consecutive steps from dependency into independence. Opposing, paradoxical tendencies become apparent in which the child because of his pleasure seeking tendencies feels on one hand inferior, competitive, imitative; and on the other hand wishes to keep small and dependent, a rebellion against the demands imposed by development. Every learning experience involves an output of energy.

According to Piaget[7], beside the three main factors in development, hereditary, environmental, and social, a fourth factor, successive "equilibrium states," should be envisaged. Piaget asks whether development is a continuous process, or does it take place in a series of steps or stages, and how far is either concept applicable to development as a whole and to individual developmental processes? Traumatic feeding difficulties, for example, during the early periods of life, in which the problems of nutrition are the center of the child's emotional life, may create a defeatist attitude, a fear of life which the person will retain throughout his life and which will make him less courageous and resistant in the struggle for existence. Another significant group of difficulties centers around the problem of hositility and destructiveness. Every form of collective life is dependent upon a certain amount of inner control by the individual over his destructive tendencies. No society could exist without the development within individuals of restrictive forces which inhibit the free expression of their hostilities against one another. This restrictive force is what we call "conscience," which is the result of a complicated psychological development. One universal factor in mental disturbances belongs to the psychology of conscience; it comes from the difficulties of controlling the destructive tendencies, and intractable guilt may evolve.

By this conditioning, based on the "pain-pleasure principle," learning can be reinforced and behavior can be controlled or motivated with the contingency of the maintenance of a pleasant or interesting state of affairs in the occurrence of a specific bit of behavior. Thus any situation that will entertain a child and can also be readily turned off and on would serve this purpose, such as movies or music. This alternation of turning on pleasant music by the child with short breaks can reinforce the learning of more complex responses. For example, mentally retarded children have been taught various concepts by reinforcing the response through pointing to a particularly interesting card or object placed on a table in front of the child. A speech pathologist can give and withhold reinforcement with such stimuli for the successive approximation of the desired speech sounds and in both of these situations the rapidity of learning has been marked.

There are those in whom physical intuitions[6] come naturally and who can recognize physical relationships and express results in physical terms. These intellectual qualities, more than any special facility with physical instruments and methods are essential to the makeup of the therapist. Hand-in-hand are the corresponding biological qualities including the curiosity as to

learning of the total functioning of the living thing. One cannot underestimate the fine physical technics applied with skill and understanding that comes from experience in dealing with living beings. The difficulty of evaluating ultimate physiological evidence is widespread in nerves and muscles of all kinds, in the central nervous system, in all tissues in which activity occurs in small discrete packets, rather than continually. Even though biochemical studies and the total metabolic effect over an interval might be measured, there are many intermediate processes in which the problem cannot be solved by physical or chemical methods alone but which are under the influence of distant enzyme factors.

One of the most significant contributions of our time is the recent fundamental hypothesis of Selye's[8] "general adaptation syndrome," which provides for the interrelation of the physiological and psychological in the human organism. The theory implies that man is in a state of continual disequalibrium, striving to modify and come to terms with stress from without and strain from within. Selye proved that under stress there are changes in the steroids of the body involving particularly the adrenals and pituitary gland. Steroids have an anti-inflammatory function and have been miracle drugs in treatment of such chronic conditions as rheumatoid arthritis or ulcerative colitis in which chronic psychical stressful situations have been present. Particular attention should be given to those cases with persistent symptoms that are not substantiated by pathology. Early recognition of these symptoms and their origin is necessary to give aid and lessen nervous tensions. Stressful situations result from the psychic trauma due to changes in the body image following disfiguring operation or accident, and producing the phantom limb phenomena. The degree of integration of the ego also will determine the ability to withstand stress. The ego through its defense mechanism and executant functions makes adaptation possible.

In conclusion my thesis can be best expressed by John Galsworthy, the English novelist, at the allied conference on the After-Care of Disabled Men in Washington, D. C., in 1919, made this challenging statement: "Restoration is at least as much a matter of spirit as of body, and must have as its central truth:—Body and spirit are inextricably conjoined. To heal the one without the other is impossible. If a man's mind, courage and interest be enlisted in the cause of his own salvation, healing goes on apace, the sufferer is remade; if not, no mere surgical wonders, no careful nursing, will avail to make a man of him again. Therefore, I would say: 'From the moment he enters the hospital, look after his mind and his will; give him food; nourish him in subtle ways; increase that nourishment as his strength increases. Give him interest in his future. Light a star for him to fix his eyes upon, so that when he steps out of the hospital, you shall not have to begin to train one who for months, perhaps years, has been living, mindless and will-less, the life of a half-dead creature.'"

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The 1956 manual, "The Correlation of Physiology with Therapeutic Exercise," has been sold out and there are no plans for reprinting.

Do You Need Malpractice Insurance?

Sidney Shindell, M.D., LL.B.

The January newsletter of the APTA was devoted as you know to two significant insurance programs. One was a proposed program of malpractice insurance. It was stated, "The need of physical therapists for protection against malpractice suits has been a major concern of the Association." And well it might be. The rise in malpractice suits against the medical profession, and against co-professional workers has caused alarm in many quarters.

It is the purpose of this brief discussion to present some basic principles of law to help you evaluate your own situation. It is not enough for a so-called "expert" to exhort, "You need malpractice insurance." As a professional person you should be able to decide for yourself, given the facts. Well, then, what are the facts?

First, you should know what malpractice is. Very simply translated it means negligence in treatment. Every person who undertakes to do any act which involves another usually has a duty to that person to take reasonable precautions that harm does not befall him. If you dig a deep hole you must take reasonable precautions that no one falls into that hole. If you drive down the street you must take reasonable precautions to avoid hitting someone. Failure to exercise reasonable care is considered negligence on your part.

In the application of any medical treatment you have certain similar responsibilities. As physical therapists you represent that you possess certain skills. Society demands of you that you possess the average amount of skill as others of your profession. Failure to keep up with developments or failure to learn what is normally expected of your fellow physical therapists is considered by the law as *negligence* in the practice of your profession. There is really no essential difference between this failure to possess professional skill and inability to keep your automobile under control at all times.

Once you attain the necessary skill, you must then exercise that skill with care. You must exercise that degree of care that is reasonably expected of similarly qualified persons under similar circumstances. In other words, you are expected not only to learn how to drive a car but to apply that knowledge and drive carefully. The law does not demand that you be infallible. Sometimes the patient may be negligent in not following reasonable orders. So there are many cases of unfortunate results where the person who performed the act in question may not be liable.

The essence, then, of malpractice is negligence, or want of due care. But one can drive a car 90 miles an hour down a main street and injure no one. Hence, we have a second element necessary for a successful suit for malpractice; i.e., *injury*.

Unless a person is injured, he is entitled to no damages, the latter meaning compensation for the injury sustained. Injuries may be physical, such as pain; financial, such as increased medical bills or loss of earnings; or emotional, such as fright, or anguish.

Just as negligence can occur without injury, and injury can occur without negligence, both can of course occur independently. As a simple illustration: At the same moment that you drive your car down the street at 90 miles an hour, John Plaintiff trips on the curb and falls down, suffering a laceration to his knee. Both negligence and injury occurred simultaneously, but the injury was in no way related to the negligence. Thus, we have another essential element of a malpractice action which we call *proximate cause*. The injury complained of must be related to (either caused by or aggravated by) the negligence.

So, for a patient of yours to prevail in a malpractice suit, a patient must first suffer an injury, and then show that it occurred as a result of something you either did or failed to do, and that either your act or failure to act was negligence on your part.

You will note that these three elements are necessary for a plaintiff to prevail in a malpractice suit. Actually, to prevail, he must convince a jury that all these things have actually occurred. This brings us to the second fact you must know.

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That is, how an occurrence of malpractice gets translated into a lawsuit.

Let us start with the patient who suffers an injury. Almost always he is angry and resentful, and the more severe the injury the more he will scream for someone's scalp. The more he is injured, the more likely he will feel he is entitled to recompense, and the more likely it is that people will be sympathetic.

The patient consults an attorney, whose sole job is to represent his client, to introduce his complaint in as favorable manner as possible consistent with ethics and justice. He may not actually know whether the injury was caused by negligence, but if there is any reasonable probability that it was, he feels a jury should have the right to decide this question. The lawyer seldom feels competent to pre-judge the client's case. He merely evaluates the evidence the client can present from which a jury may decide. His first task then is to gather evidence, and if it appears that he can demonstrate to a jury by a fair preponderance of the evidence that what his client claims is reasonably probable, he will file suit in behalf of his client.

Similarly, the person against whom the claim is made must seek counsel. Even though I have presented the bare outline of what constitutes malpractice, it would be foolhardy to attempt to use this outline to evaluate the facts as you know them in terms of their legal import. Therefore, a lawyer is necessary to gather the evidence most favorable for defense of a claim. Various procedures, both formal and informal, exist for the advocates representing the opposite sides of a controversy to exchange information. When this is done, a case may either be dropped, settled, or proceed to trial. Most often the claimant (or plaintiff) hires his attorney on a contingent fee basis. This means that only if the claimant is successful does the attorney get paid and his compensation is a portion of the total amount recovered.

The defendant, however, must pay for legal services willy-nilly. That is, he must pay unless an insurance company or his employer or some other beneficent person or organization is willing to assume the cost of defense, not to mention the cost of the "damages" which may be awarded to the claimant.

I have often been asked why the physical therapist would be involved. Most therapists are employees of a hospital; isn't the hospital liable? To answer this, we must be aware of the third principle fact in malpractice: Even though you may share responsibility with others, you are still personally liable for your own acts and may even carry responsibility for the acts of others.

We all know that if a bus company has a driver working for it, and the bus hits a person, the company may be sued. Many are not aware that the driver can also be sued. (The injured party cannot collect twice, however.) Similarly, it is apparent that even as an employee of a hospital, the physical therapist may be subject to suit. In many states the hospital cannot be sued in any event, and the therapist may be the only one who can be reached in terms of liability. Moreover, the hospital's insurance may only protect it, and not its employees.

You may say, "But we always work only under the supervision of or under the direction of a doctor, isn't everything we do his responsibility?" The answer is "yes," usually. But again that does not mean it is not also your responsibility. There are some instances, as for example, where his orders may be inappropriate but your manner of carrying them out may be reasonable and proper. This may well be exclusively the doctor's responsibility, unless you knew or should have known the prescription to be inappropriate. On the other hand, the prescription may be perfectly proper and the application careless. This would probably be exclusively the therapist's responsibility.

The issue of whether the physical therapist is the physician's agent in which case the doctor will also be liable, or whether the therapist is an independent contractor in which case the doctor is absolved, is not essential to our discussion. In either case the therapist is liable, whether the doctor can be joined in suit or not.

The physical therapist, moreover, may be liable in delegating duties to aides, students, or other therapists, and may be joined in suit, or sued independently for an act performed by a person under his supervision. In other words, you may be as careful as required yourself, but still be liable for someone else's action.

It is not the purpose of the preceding discussion to cause undue concern. All fields have inherent in them some degree of risk. It is important, however, to recognize the special risks inherent in physical therapy. This is fact number four: There are some special risks.

The risks can be classified under two main headings:

a) The use of inherently dangerous instrumentalities, and

b) dealing with people having limited ability to protect themselves from injury.

It is unnecessary to belabor either of these. Electricity can shock; ultraviolet light can cause severe burns; water can drown, etc., etc. Patients with orthopedic or neurological disease are susceptible to falls. It is incumbent upon the physical therapist to know and anticipate the dangers which are inherent in the "modalities" used, and to take reasonable care to protect the patient from these dangers.

The adage, "The right way is the safe way," is the only guide. Qualified therapists have been taught the right way, and canons of ethics have been based in a large measure on principles which are designed to protect the patient.

In a young and growing field like physical therapy it is only natural to experience crowding and overwork in a new department, but it is the responsibility of the physical therapist to insist on maintenance of standards if for no other reason than protection from malpractice claims. There is a duty to provide safe apparatus, to prevent obstruction of passageways, to avoid leaving a patient unattended, to observe helpless patients, and the like.

While it is true that medical standards are constantly being raised, and specialized skills are constantly being introduced, it is inescapable that in spite of these facts more malpractice suits are being brought. This is one last fact that must be kept in mind.

Many explanations are offered to account for this phenomenon. None solves the problem, since apparently nothing can reverse the growing trend of more and more litigation in the medical field. More suits are being brought against doctors, hospitals, nurses, technicians, pharmacists, and therapists, and more are expected for the future.

Now that you know these facts, what course is left open to you? Obviously you must do everything feasible to reduce the possibility of a claim arising; then you must do everything possible to assure that the claim cannot be prosecuted successfully. Lastly, you must provide for indemnification if the claimant prevails.

To reduce the possibility of the claim you can do several things. You can learn to know what malpractice is. You can recognize and guard against the risks inherent in the field, and you can maintain the highest standards in the practice of your profession.

To reduce the possibility of an adverse result from a claim, probably the one most important measure that can be taken is the maintenance of adequate records.

You should be aware that records are not only admissible in court but usually carry much more weight than oral testimony. The importance, therefore, of maintaining an accurate record of observations of the patient, treatments given, reaction of patient to a specific treatment cannot be overemphasized, especially if an injury does occur.

The claimant has a year, in most states, in which to file his complaint. It may be two years more before the case comes to trial. No one's memory is so good that he can rely on it for details three years (and several hundred patients) after the event has occurred.

While adequate records may not necessarily prevent claims from being made, they frequently prevent them from ripening into lawsuits. They certainly make it much easier to defend a suit if it is brought.

To serve these purposes, they must, of course, be legible, complete, and accurate. They should contain no extraneous matter, and certainly no conclusions that cannot be substantiated. They should contain no observation which a physical therapist is not considered competent to make. One should record facts, not opinions.

Since apparently nothing can eliminate claims completely you must still be prepared to defend claims and be prepared to indemnify the claimant if he prevails. Only one feasible means in our society exists to accomplish this, a comprehensive professional liability insurance policy.

This insurance will do the following:

It will pay the cost of investigation and settlement of any claim instituted against you.

It will pay the cost of any bonds which might have to be posted to release attachments.

It will pay all the costs of defending suits whether groundless or justifiable.

It will pay any judgments obtained against you, or any settlement made, up to the limits provided for in the policy.

It will pay all court costs and legal expenses in connection with any suit.

It will protect you whether you work in a hospital, in a doctor's office, or in a patient's own home.

It will protect you as a supervisor against any claim arising out of the work of a subordinate employee.

In other words, it can provide for you the protection which is reasonable in light of our times. It can help you avoid the risks of your calling. It can enable you to engage in your professional duties secure in the knowledge that you will not be called upon to meet the risks unaided.

Role of the Physical Therapist in Home Accident Prevention

Richard Zarbock, M.A , and Mark Kenyon, Ph.D.

Accidents of all types result in approximately 100,000 fatalities and injuries in the United States every year, thereby replacing cummunicable diseases as the leading source of disability and death. It is ironic that most of the accidents that kill and cripple occur in the supposed safety of the home.

Departments of health as well as many private hospitals and voluntary health and welfare agencies are developing programs for home accident prevention. Of all potential killers and cripplers accidents are perhaps the most easily avoided, yet only through education can they be prevented. The problem cannot be solved by any particular professional service rendered by a department of health or similar agency, but the experience of health departments throughout the nation indicates that effective control and prevention of home accidents can be accomplished by the cooperative effort of the many professional groups represented by a department of health. In this cooperative effort, often referred to as the interdisciplinary approach, the physical therapist with his special skills can play an important role. The increasing emphasis on teaching and treatment in the home by the physical therapist makes it possible to include home accident prevention and safety instructions as a vital part of the home care program.

The modern concept of therapy and service extends beyond the individual. It is true that the person in need of service represents the center of thought, but the family must be included also. Since every family has some type of "home," the home with its actual or potential hazards must be considered in relation to the person receiving treatment and the possible effect on the family. The concept of family is functionally and traditionally an essential part of the concept of home and must, therefore, become an essential part in the approach to home accident prevention.

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The role of the physical therapist is twofold: primarily to help train the patient to attain maximum function according to his particular limitations in the usual hazards of his environment; secondarily, to help the family prevent accidents by correcting recognized hazards in the home and forestalling additional injury to the patient or themselves as a result of improper handling.

Because the physical therapist has access to the home, he can reinforce the recommendations of the physician and augment his role as family health counselor. The home visit also gives the physical therapist an excellent opportunity to observe and evaluate the home environment for conditions that are potentially hazardous. These observations could be recorded in the family folder or as part of the progress notes for use by other workers who will work with the family. Recommendations for correction are most effective when accompanied by demonstrations. A home safety check list available from a variety of sources including the National Safety Council offers valuable guidance for his task. Development of good safety habits are particularly valuable for the handicapped person. Parents may realize that a young child should be protected from the temptation of the medicine cabinet, but may be inclined to minimize the fact that a child with a handicap may succumb to the same temptation as normal children.

One of the major difficulties in coping with home accident prevention is intangible human or host factors in the triad of environment, injurious agent, and host. These intangible human and personal factors should be pointed out by the physical therapist. A sense of responsibility for the prevention of accidents is basic in developing sound safety habits. The typical levity exhibited by many persons regarding accidents needs to be replaced by a more positive philosophy. The physical therapist can assist the family to evolve such a philosophy by stressing the point that accidents do not just happen—they are caused. The occurrence of a recent nonfatal

accident could be exploited for its teaching potential.

The physical therapist should orient the parents in carrying out the prescribed treatment and in the use and care of therapeutic equipment. Teaching safety can also be incorporated as part of the instruction given toward proper construction and use of equipment.

Adaptive and therapeutic equipment

Equipment which is either too large or too small for its intended use, or too light or too heavy in weight, will often defeat its initial purpose of providing needed stability. Persons responsible for the construction of prescribed equipment should be given guidance by the physician and physical therapist so that the equipment will be of sufficient strength, weight, and durability. The physical therapist should point out the danger in the use of paints and other finishes that contain lead pigments.

Standing table

The standing table with a base that is not wide enough or with a center of gravity too high is a hazard which must be avoided. The cut-out area should be adequate in size yet not so large that it fails to provide the necessary support and stability. Leg locks should be a secure and integral part of this device.

Posture chair

Chair size and proper center of gravity need emphasis in relation to the posture chair as well as the standing table, and the following precautions should be stressed:

1. The chair back should be placed at the proper angle; an incorrect angle can cause instability and contribute to lack of body control.
2. The chair should have a base of sufficient size to insure against tilting. Special care should be taken to provide an adequate chair base for the cerebral palsied patient with poor balance of head and body.
3. Casters that stick, are too small, or become easily entangled can cause the chair to overturn and result in injury to the patient.
4. The removable tray should be adjusted to the proper height and used as additional support. If necessary, a leather safety belt can be secured to the patient's waist and attached to the chair.
5. Padding should be added for the protection of the head.

Parallel bars

Parallel bars that are stable and are the right height will do much to conserve the strength and endurance of the patient as well as prevent further possible injury. The patient, however, should always be adequately supervised and supported according to his physical and mental limitations as a precaution against falling should he lose his balance.

Crutches

The strength and balance of the patient should be evaluated prior to his use of crutches. Crutches should be of proper length and weight to maintain balance and should be fitted properly to avoid pressure in the axilla and the possibility of radial nerve paralysis. Proper body balance, support, body alinement, and distribution of weight should be stressed.

Braces

Braces should be well lubricated and kept in good repair to assure freedom of action. Locks and joints require periodic inspection. The physical therapist may recommend crepe soles on shoes for the patient as a safeguard against slipping or falling. It must be borne in mind that braces will restrict motion in some areas; therefore, the therapist must be aware of decreased balance efficiency. The brace alinement must afford the best balance and prevent or correct deformity.

Assistive bars

Assistive bars and other apparatus should be used whenever possible. The Balkin frame with trapeze could be used to advantage by the person who assists the patient to get in or out of bed, also it facilitates the use of the bedpan, toilet, or bathtub.

The therapist's combined knowledge of body mechanics and the particular disability should be utilized to instruct patient and parents in the proper methods of assisting the handicapped person to carry out the activities of daily living. This instruction should be within the comprehension of persons in the home responsible for the patient's care. Patients and parents need assurance and instruction in order to anticipate problems and avoid accidents.

It should be pointed out that stabilizers, crutches, toys, or any other materials left scattered about the floor present hazards to the handicapped as well as to other members of the family, and that proper storage of such materials

will do much to avoid further injury to the handicapped. In some rural homes wood or coal oil stoves present a serious fire hazard. A discussion of this potential problem will often result in a solution. It may be as simple as providing an adequate, quick escape route.

Falls, as a single category, cause more injuries than any other classification. Therefore, it is doubly foolhardy for a person to leave a child with lower extremity incoordination problems in a standing table without supervision. Falls in the dark can be easily prevented through use of a small night light. The ambitious parent needs to be cautioned against allowing a severely disabled person to use crutches before he has sufficient strength to stand, or unlocking a child's hip locks or braces before the patient has attained necessary body balance. Improperly adjusted or damaged buckles or stabilizer cuffs can cause a child to lose balance. Stabilizers must be strong enough to stand the extra strain of incoordinate or involuntary movement. Instruction by the physical therapist in a safe way to fall would be valuable. This could be given as part of the training in the functional activities of lifting, walking, and carrying.

Other children in the home should be considered in their relationship to the crippled child. Rough play, pushing the wheel chair, and lack of insight on the part of parents or children must be anticipated. The physical therapist has the responsibility to educate the parents so that they can provide better and safer care for the patient in the home, and to help them recognize the proper balance between protection and training for the safe behavior of their child.

SUMMARY

Thousands of needless deaths and injuries from accidents constitute a new challenge to public health. Official and voluntary health and welfare agencies are aware of this growing problem and have taken steps to combat it. Every professional worker represented on the staffs of health and welfare agencies can make an important contribution in the control and prevention of home accidents. Physical therapists because of their special skills and ready acceptance in the home have a unique opportunity to teach good safety practices as they apply to the handicapped person and the other members of the family group.

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Proprioceptive Neuromuscular Facilitation Film

A 35 minute color film with sound is available to chapters and schools of physical therapy at a rental fee of $10.00. One copy of the film has been given to the Association by the California Rehabilitation Center. Requests from states east of the Mississippi should be directed to the American Physical Therapy Association, 1790 Broadway, New York 19, New York; rental is payable to the American Physical Therapy Association. Those west of the Mississippi should write to California Rehabilitation Center, 2600 Alameda, Vallejo, California; rental is payable to the California Rehabilitation Center. All requests should be submitted two weeks in advance of date of showing. Alternate dates are desirable since both copies may have prior bookings.

*The Student Physical Therapist in a General Hospital**

Sister Mary Ellen, B.S.

In *The Idea of a University*[1], Cardinal Newman, in his brief discussion on faulty education, made this statement: "Self education in any shape, in the most restricted sense, is preferable to a system of teaching which, professing so much, really does so little for the mind." Education is a science dealing with the principles and practice of teaching and learning. It should be a personal, individual, and creative process on the part of the student. Since standards of teaching must be kept at a high level, it is our duty to see that the didactic program and the clinical program function in close relationship to give the best service to the hospital and community.

Bearing this in mind, let us take a look into the hospital life of the student physical therapist. One of the major functions of the hospital is the care of the sick and disabled. To be able to give good patient care we must produce intelligent, well trained personnel. I am thinking now of the student physical therapists. As clinical supervisors and instructors our personal influence for the good of the students is one of the greatest contributions we can make toward their growth and development. We have a moral obligation to give of our best to every student in our care.

Student problems are many; we must not only understand them but we must know how to handle them as well. Each one of us has a philosophy of life which consciously or unconsciously is developed and imposed upon students.

The demands placed upon instructors and supervisors are many and pressing; however, they should not be allowed to interfere with the proper orientation of the student who is usually a bit frightened when he makes his first appearance in a hospital. A warm, sincere welcome will give him a sense of "belonging" to the hospital family. The student should be introduced to the personnel and given a brief explanatory tour of the department. Then, if possible, he should be taken on a tour through the hospital. Many students know about the Department of Physical Medicine and Rehabilitation, but little or nothing about the hospital in which they work. Tours through the hospital broaden the student therapist's outlook in the field. Being introduced to the administrator and other hospital personnel gives him a feeling of recognition and security.

During a National Institute of Human Relations, Dr. Bender listed these 10 Guideposts to Popularity[2]:

1. Sincerity of your smile.
2. Warmth of your handclasp.
3. Neatness of your appearance at work.
4. Tolerance you have for other's opinions.
5. Gentleness in your voice.
6. Readiness you display to listen.
7. Importance you put on keeping your promise.
8. Kindliness in your temperament.
9. Eagerness to improve yourself.
10. Interest you display in the welfare of others.

These guideposts can fit into the planning of our dealings with students during the affiliation period. Students will be motivated in great measure by the guidance given them. Instructors and supervisors may differ in their methods of motivation. I have found it helpful, after the orientation period, to assign the students to a senior physical therapist for a few days until they have adjusted themselves to their new environment. The senior therapist has been briefed in what is expected of him as a student guide. While the students observe they also learn by doing. For most students this may be the first time they have actually come in contact with sick patients; therefore, the first few days must be spent in explaining and teaching the new students how to handle the sick patient and prepare him for treatment.

During the second week of his training each student is assigned two or three selected patients. These are new admissions who have not been

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* Read at the Workshop on Clinical Practice, University of Connecticut, Storrs, April, 1957.

treated by other therapists. These will be the student's very own patients. With such an assignment there can be no comparison of how another therapist treated the patient. A brief discussion of the patient's condition, his diagnosis, and the treatment prescribed, are talked over between the supervisor and the student. The student is expected to know not only *how*, *what*, *where*, but *why* a treatment is given, because a therapist must always be impressed with the fact that he is treating an individual human being like himself and not just a C.V.A.

Each student is introduced to the patient who is told that he is in good hands. A few words of praise for the student builds up his courage—a little praise is good for all of us. The student should be told to ask questions when in doubt; to ask a question is not a sign of stupidity, but of intelligence. The supervisor does not need to stand guard over the student during all treatment procedures as this is often more of a hindrance than a help. Supervisors have many opportunities for indirect supervision. The patient load is constantly changing and supervisors are back and forth visiting and greeting patients. During this period there can be observation and teaching, not only of students, but of staff members as well.

Students should be taught to take an active part in the clinical teaching program by group and individual participation. The program should be stimulating, instructive, and one that the student not only *wants*, but *needs*. At St. Francis Hospital, when we have occupational therapy students, formal classes are held three times a week for both occupational and physical therapy students. The physiatrist discusses the case from the doctor's point of view, the physical therapist describes the physical therapy, and the occupational therapist presents her phase of the treatment. This class is set up for the students who will be with us from six to eight weeks.

During this time each member gives an oral case presentation. Before the student gives the case presentation to the group, it is helpful to take the student aside and go over the patient's chart with him, discuss the patient's condition, the given diagnosis, the terminology, and treatment procedures. No student should be expected to give an oral case presentation until he has had help from his supervisor. It may take time, but how much more at ease the student will feel if you volunteer to be his audience and let him present the case to you before it is presented to the group. Many facts about the student may be learned at this time. It permits an evaluation of his understanding of the facts of the case, his poise, his diction, and his ability to speak before a group. Every student is expected to attend lectures given and films shown weekly in the amphitheater and to make use of the library facilities available to him.

Students who are with us two hours a week have the privilege of attending a clinic which is especially planned for them. Here the patient is presented and discussed by the physiatrist.

Each morning we hold a 10 to 15 minute conference, which begins with a prayer—to beg the help of the Divine Physician in our work. The staff discusses the new patients to be treated and any problems in the present case load. If these problems cannot be solved in our group discussion, they are presented to the physiatrist, who then takes up the problem with the individual therapist concerned. This discussion period enables the staff to know what is being done for the patients in both sections, while the supervisor learns a great deal about her staff through the manner in which the patient's progress is reported and the attitudes displayed by the staff.

Since the patient's hospital record accompanies the patient on his initial visit, the students have free access to these records and to doctors' notes. Student therapists are expected to write progress notes once a week. These progress notes are read and initialed by the supervisor to show the student that his work has been checked and approved.

Clinical supervisors expect much from the students. Do we ever ask ourselves what the students expect from us? Perhaps the one, big, single factor in the relations is our *attitude* toward them. Students quickly sense whether or not we are sincere in our welcome and in our really wanting them in our department. A frank friendly attitude, close personal contact, good supervision, a cheerful word of encouragement when a job has been done well will assuredly lead to a good relationship and better physical therapists. Tactless speech, and a manner which is domineering, critical, and apparently prejudiced leads to discord and unhappiness.

The ability to influence students for good is strengthened by: [3]A sense of fairness, a spirit of tolerance, a sense of humor, a certain capacity of sympathy, self control, and respect for the individuality of the student. Qualities which negate the supervisor's desirable influence are quick temper, hypersensitivity, and resentment.

Recently I attended a lecture and the question

was asked, "What do workers want of their supervisors?" This was the answer given:[4]

1. That she is sure of herself.
2. That she is easy to talk to.
3. That she can take criticism.
4. That she will go to bat for us.
5. That she gives clear-cut instructions.
6. That she tries to be fair to everyone.
7. That she understands her staff's problems.
8. That she is cool and calm most of the time.
9. That she tells me what she thinks of my work. . . .

Perhaps as we think these points over, we will be more understanding in our dealing with students.

The supervisor cannot do all that is expected of her; she must delegate authority to her graduate therapists. The graduates must be willing to assume the responsibility given to them. Delegation of authority brings out many good points in the members of the staff and creates in them a desire to assume responsibility.

Hospitals expect us to give them alert, intelligent physical therapists. Perhaps the first trait a hospital expects is *loyalty*. Loyalty is an obligation placed upon every physical therapist, young or old. It is our duty to cultivate this trait. The therapist must be loyal to the companions with whom he works, to the hospital staff, and to the patient. The hospital expects *confidence*. A hospital cannot function properly or serve its purpose unless it has the confidence of its entire staff. Likewise, the physical therapist must have confidence in his supervisors and co-workers. He in turn must instill confidence in his patients. To achieve this the therapist must have confidence in himself.

Physical therapists who have become members of a hospital staff must obey the rules and regulations of the hospital employing them. Obedience begets dependability, which is a strong factor in the functioning of any department. Hospital authorities have a right to the respect of all the staff members. Physical therapists, by performing faithfully the duties and obligations assigned to them, will automatically command the respect of the patients.

The hospital expects professional dignity. Physical therapists should know the role they are to play, and perform it. They should maintain the standards of their profession and this is best accomplished by living and acting according to right conscience.

The physician expects the therapists to give his patients the best care by carrying out his orders accurately and consistently. It is not the prerogative of physical therapists to prescribe, diagnose, or change orders.

Physical therapists should treat the patients as they, themselves, would want to be treated. They should see that the patients are properly draped and screened off during treatment and should keep in mind that although technic of treatment changes with time, the basic approach to the patient will not change. It is necessary for physical therapists to have experience, knowledge, and capability, but these are of little value if not used with tact, kindness, and a deep understanding of human nature. These qualities will make therapists a group of professional men and women who will prove a credit to the hospital, the school, themselves, and their professional associations.

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The Need Continues

Physical therapists interested in recruitment will find valuable suggestions in the September issue of Recruitment Notes. The second issue in the new looseleaf format is designed for easy reference. It outlines the functions of the Recruitment Chairman and lists avenues for reaching the general public, schools, and community agencies. Suggestions on plans and projects for the coming year are offered. Recruitment chairmen have these Notes and will share them with you.

The Treatment of Cerebral Palsy in Norway

D. E. Morley, Ph.D.

Treatment facilities for the cerebral palsied children of Norway were meager until 1949. There were no organized therapy centers; medical advice concerning cerebral palsy was practically unobtainable; parents of such crippled children found very little help. In 1949 Rikshospitalet (University of Oslo Hospital) was about to open a new, modern barneklinikk (children's clinic). A group of parents of cerebral palsied children contacted the authorities at this new center, and arrangements were made to provide some short-term inpatient treatment. A physical therapist who had had some training in this work in the United States and in England, a neurologist, and a little later an occupational therapist made up the original staff.

It soon was realized that if this undertaking to provide treatment for cerebral palsied children were to survive and to grow, it would require the support of more people, and there would have to be considerable financial assistance. The same parents who had been responsible for getting a program started at Rikshospitalet organized the Norwegian Cerebral Palsy Association (Foreningen til Bekjempelse av Cerebral Barneparese). At present there are nearly 3,000 members. This organization has provided the major impetus for the advancement of the work in Norway. It solicits funds, has established two of Norway's present cerebral palsy centers, provides equipment and staff where needed, sponsors training courses for physical and occupational therapists, distributes literature concerning cerebral palsy, and most recently has opened a central training institute.

The financial assistance has come from several sources. In Norway there is a national women's organization, Norske Kvinners Sanitetsforening, which has sponsored and supported numerous health services during the past 50 years. This group has made a valuable contribution to the work with the cerebral palsied. Two of the important treatment centers and outpatient hospital programs are operated by the Norske Kvinners Sanitetsforening. The Norwegian Red Cross organization maintains one of the treatment centers and outpatient units. Former United States Ambassador to Norway, Charles Ulrick Bay, donated a sizable fund—the Josephine and Ulrick Bay Fund—to be used to provide training scholarships for physical therapists and special equipment. In Norway most families subscribe to Trygdekasse, the national health insurance program. In the case of cerebral palsied children, a large part of the expense of transportation, medical treatment, physical therapy, and maintenance is paid for by the Trygdekasse. With rising costs, however, the original allotment allowed under this plan is not entirely sufficient, so the associations operating the various centers make up the deficit.

The accomplishments during the comparatively few years which have elapsed since the first treatment facilities were established at Rikshospitalet have been many, and the expansion of the program has been impressive. The future promises further improvements in the number of areas served and the caliber of the work done.

One center at Rikshospitalet could not be expected to handle enough cases, nor could it provide the long-term training which cerebral palsied children require. Furthermore, Norway's rugged terrain makes travel to Oslo at the southeastern end of the country difficult and expensive; hence, the task of providing more centers was undertaken. For the most part, these were to be residential treatment facilities. The first was set up in 1952 at Valstadbraten which is about 20 miles north of Oslo. A large farm home, previously a rest home for elderly women, was remodeled and equipped for the use of cerebral palsied children. At another place called Tomptebo near Vikersund, about 55 miles west of Oslo, there was a two-building recuperation center for children. One of these buildings was taken over for the work with cerebral palsied children.

In Oslo, through the cooperation of the Oslo city council, space was provided for physical therapy, occupational therapy, and education at the Sagene community health center. The chil-

Associate Professor, Speech Department, University of Michigan and Senior Speech Therapist at the University Speech Clinic. During 1956-57 he was a Fulbright Lecturer in speech pathology in Norway. The major part of Dr. Morley's work was in connection with the cerebral palsy program.

dren come here for daily treatment and education and return home at night. The most modern center was finished in 1956. At Fredrikstad about 70 miles south of Oslo the Norske Kvinners Sanitetsforening erected a fine new building which is used exclusively for the treatment of cerebral palsied children. In areas further removed from Oslo and where the population is more scattered, it has been the policy first to provide service through local outpatient units which are connected with a municipal hospital. Later, permanent centers able to provide a wider variety of treatment are established. At the present time in several communities—Bergen, Hamar, Trondheim, Stavanger, Lillehammer, and Tonsberg—larger permanent centers are being set up. Finally, in March, 1957, a central training institute was opened at Holmenkollen, a suburb of Oslo. From the very beginning of the program for cerebral palsied children in Norway, such a place has been in the planning of the Norwegian Cerebral Palsy Association. A group of children will be in residence there, and therapist training will be available.

Through the Norwegian Cerebral Palsy Association, experienced therapists have been assigned to each of the units. Norwegian medical personnel, physical therapists, and occupational therapists have gone to the United States and to England to study and to gain experience in the work. In the treatment centers now in operation one sees the most modern therapeutic methods and equipment being used. The opening of the training institute at Holmenkollen now provides a Norwegian center where more therapists can be trained without leaving the country. Although specialists in the various phases of treatment and training of cerebral palsied children may be brought to Norway to provide additional instruction as the need arises, and probably a few therapists will continue to go abroad for advanced work, the majority of the basic training now can be obtained in Norway.

The establishing of treatment centers is not the only accomplishment of the past few years. In 1954 a detailed survey of the incidence of cerebral palsy in a representative county was made. Through this study the probable prevalence of cerebral palsy in the country as a whole has been estimated. On the basis of the figures thus obtained, it is estimated that there are 1.9 new cases per 1,000 births. The official birth statistics for Norway in 1952 indicate that there were 62,500 live births that year; therefore, it may be calculated that approximately 119 children with cerebral palsy will be born in Norway each year. It is estimated that there are 2,500 cases under 21 years of age and about 7,700 among the population as a whole.

For the past five years lecturers in speech pathology have been assigned to Norway through the United States Department of State International Educational Exchange Service authorized by the Fulbright Act. In addition to the assistance obtained from these lecturers in the area of general speech therapy, emphasis has been on lectures, demonstrations, psychological evaluations, and the training of speech therapists as related to cerebral palsy. During 1956-57, for example, the Fulbright lecturer worked in each of the residential centers, examining children with speech difficulties, setting up suitable speech therapy programs, consulting with the various therapists and medical personnel, and lecturing to the staffs of the several units. A series of lectures concerning the speech problems and speech therapy for cerebral palsied children was given at the Granhaug Skole (Norway's training center for speech therapists), at Rikshospitalet, and at the University of Bergen. Time was devoted to working at the children's clinic of Rikshospitalet examining outpatient cerebral palsied children, meeting with physical therapists, occupational therapists, pediatricians, and with the staff of the otology department. Participation in the annual convention of the Norwegian Speech Therapists Association, included discussion of the cerebral palsied child. Fulbright lecturers have been requested by the Norwegian Cerebral Palsy Association to provide instruction in the management of speech problems which may accompany cerebral palsy.

In 1953 representatives from Norway went to Denmark to participate in the first Scandinavian Congress concerning cerebral palsy. In September, 1957, Norway will be the host for this meeting which will be attended by persons from Norway, Sweden, Denmark, and Finland.

The program for the treatment of cerebral palsied children in Norway clearly is on its way. There are still some inadequacies which must be eliminated in the future. For example, work remains to be done in completing additional strategically located residential treatment centers throughout the country. The southern section is now well cared for in this respect, but the great north country and the western seaboard area still lack facilities. In terms of the program itself, suitable medical personnel has been assigned to each center, and physical therapy and usually occupational therapy are provided in all units. Less frequently one finds educational facili-

ties which have trained teachers. There must be more teachers who are trained to teach cerebral palsied children. Facilities for adequate psychological evaluation of these children are meager. Although speech work is a recognized need in the program, there are still too few trained speech therapists doing active therapy in the centers. Plans are being made to improve this situation in the future.

Grateful acknowledgment is given to Mr. Kjell Boysen, secretary and former president of the Norwegian Cerebral Palsy Association, for his assistance in the preparation of this article.

Physical Therapy Review Case Reports

Suggestions for Their Preparation

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The case report should be clear, concise, to the point, and written in a narrative style. The report should not be taken verbatim from the hospital records and should not consist merely of fragmented incidents or items whose relationship to each other is not clear.

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Example: Unusual Gait Pattern in Hemiplegia

Facilitation Technics for Poliomyelitis Patient
Application to Self-Care Activities

Authors

In most cases authorship belongs to the person principally carrying out treatment or to the person responsible for the preparation of the report. If others contributed to the care of the patient, credit may be given in the narrative thus:

> "Mary Hanson administered the progressive resistive exercise program and reported that. . . ."

Outline of body of paper

Personal data (age, sex, race, marital status, and occupation if relevant)
Chief complaint
Family history (if relevant)
Past personal history (only relevant points)
History of present complaint (including symptoms)
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Necropsy findings if end was death

Unnecessary material

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Everything that happened after the author saw the patient is expressed in the simple past tense. "The boy was admitted. . . ." "He recovered function."

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Do not confuse sequence of times. The important thing is to be sure that the reader can orient himself to the proper order of events. If using specific dates, spell out the name of the month and avoid using only numerical values such as 6-8-56.

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The author may know of what he speaks but caution must be exerted to use exact anatomical terms and descriptions. For example, "upper abdomen" implies more than one; "upper left quadrant of abdomen" is more accurate. Or, "body of the first cervical vertebrae" is incorrect, as the first cervical has no body proper.

Verbal-arithmetical faults

Inaccurate: "In 39 cases of poliomyelitis, gross weakness of the abdominal muscles was found. In 20 cases the neck flexors were weak." A reader would question here if the number of cases being described were 39 or 59: were the 20 cases part of or in addition to the 39?

Accurate: "A total of 39 poliomyelitis patients was examined. Abdominal weakness was found in all patients in the series. Twenty of the 39 patients also had neck flexor weakness."

Headings and subheadings

Unnecessary unless the report is of unusual length.

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A summary is not usually necessary in reports of a single case. Conclusions are not usually justified.

Articles based on a series of cases

There are several methods of reporting on a series of cases.

1. The author may report in full on one case which illustrates the largest number of features of the group. He may follow the single report with comments on the ways in which the group digressed from the example and number of cases in which such and such a feature was or was not found.
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1. *Paragraphs:* A paragraph is a connected series of sentences contributing to the development of a single topic. It is a little essay in itself.
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Case Report

Postoperative Treatment for Internal Derangement of the Knee

Viola Bryson Newman, M.A.

History

A 33 year old male veteran entered the Hines VA Hospital on Dec. 13, 1956, with a 10 year history of complaints of stiffness and mild ache in the left knee. The patient told of a locking in the left knee, usually occurring when he arose from a kneeling position. The pain was so severe that he could not fully extend the knee during these intermittent episodes. The patient was seen prior to admission by the company physician who advised rest and local heat. This did not give any marked relief. On Dec. 3, 1956, this patient re-injured the knee while stepping over a piece of debris.

Chief, Physical Therapy Section, Veterans Administration Hospital, Hines, Illinois

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Chief, Physical Therapy Section, Veterans Administration Hospital, Hines, Illinois

Physical Examination

Upon admission, the physical examination revealed a well developed, well nourished male, without any distress. He was alert, intelligent, and cooperative. The left knee was fixed in 15 degrees of flexion. There was two-plus fluid in the left knee with hypermobility of the patella. There was no apparent instability. Tenderness was present only to deep palpation over the interior medial joint compartment. There was some crepitus in the affected joint when the knee was first flexed and then extended to 70 degrees. There was a 1½ centimeter atrophy at the middle third of the left thigh and a 1 centimeter atrophy at the middle third of the lower left leg. The patient walked with a limp.

Laboratory Data

Dec. 15, 1956, reports of AP and lateral X rays of the left knee showed a small bony shadow behind the knee, but there was no evidence of knee pathology. Bleeding time was 1 minute and coagulation time 4 minutes 55 seconds.

Hospital Course

The patient was referred to the physical therapy department for treatment on Dec. 13, 1956, with diagnosis of internal derangement of left knee. At this time, the preoperative prescription included:

Isometric quadriceps exercises (bilaterally),
Hip flexion with knee extended,
Knee flexion and extension using progressive resistance.

When treatment started, the patient could lift 15 pounds through 10 repetitions, and 25 pounds once with the left quadriceps. He could lift 30 pounds through 10 repetitions and 40 pounds once with the right quadriceps. Four days after the initial treatment there was no improvement in range of motion or muscle strength of the left knee.

On Dec. 18, 1956, a left arthrotomy was preformed with a medial menisectomy. A bucket handle tear of the medial meniscus was found. The patient recovered without incident from the surgery and physical therapy was continued.

On Dec. 19, 1956, isometric quadriceps exercises and hip abduction exercises against gravity were given at the bedside twice daily. The patient was instructed to do 20 isometric quadriceps contractions on the hour for each waking hour, and approximately 50 hip abductions against gravity per day. One week following surgery, knee flexion exercises were started with the patient sitting on the edge of the bed. These were done 10 times each hour throughout the day. At this time the patient actively flexed the left knee to 90 degrees with the original dressing still in place. Mild knee flexion exercises with progressive resistance were added to the treatment program, and the patient was brought to the clinic twice daily.

On the thirteenth postoperative day, the patient lifted 17½ pounds through 10 repetitions with the left quadriceps. This represented a 2½ pound gain in strength over the preoperative measurement. He continued to come to the clinic twice daily for exercise.

On Jan. 4, 1957, the patient lifted 22½ pounds through 10 repetitions with the left quadriceps, and 25 pounds once. This exceeded the preoperative measurement by 7½ pounds. He walked normally without a limp or pain and without aids. Knee flexion and extension of the operated leg were nearly normal. The level of improvement expected for this patient in the amount of weight lifted by the operated leg should have equaled that of the normal leg which was 30 pounds once. The patient missed this objective by 7½ pounds due to early discharge.

The patient was instructed in a home exercise program and was discharged Jan. 4, 1957, with maximum hospital benefit, having received 17 treatments in physical therapy. The patient worked as a laborer and his job required walking and some lifting. He planned to return to work one month following discharge.

COMMENT

The case reported here showed an excellent response to prescribed therapeutic exercise of an intensive and graduated nature. The type of pathology described is frequently seen in physical therapy and the short hospital course of this patient was typical of a large number of similar cases treated in this institution.

Suggestions from the Field

The Inner Tube Story

Vilma Evans, M.A.

Administration of therapeutic exercise frequently demands assistance by the physical therapist or the use of apparatus. Methods vary in the degree of physical effort required by the therapist and in the simplicity or complexity of equipment.

The purpose of this paper is to present a simple, economical, and versatile material—the used inner tube. Desirable features, in addition to availability at little or no cost, are that it permits activity in a manner that is relatively free of friction and gravity, permits complete or partial suspension and support of body parts, and may be adjusted for assistance or resistance. Inner tubing can be used also in the construction of several aids to ambulation.

Chief Physical Therapist, Physical Therapy Department, St. Elizabeth Hospital, Danville, Illinois.

Suspension slings

This method is economical of the time and effort of the physical therapist and lessens the possibility of the physical therapist inadvertently assisting the patient when active motion is desired. Because less effort is needed to move, and more periods of exercise can be done without supervision, the patient responds to this increased activity, gains confidence and psychological uplift. When adequate suspension is provided, severely handicapped patients can perform reciprocal movements preliminary to performing activities of daily living (see fig. 1). The suspension slings may be constructed for support of any body part and attached to the overhead frame or uprights (see figs. 2, 3). Exercises then may be performed in the supine, prone, sidelying, and sitting positions.

Drop-foot splint

The foot is placed in a continuous band 1 inch wide which is crossed in a figure eight so that one loop of the figure surrounds the leg at the level of the malleoli, and the other loop of the figure crosses under the ball of the foot. Adjustments can be made by twisting the rub-

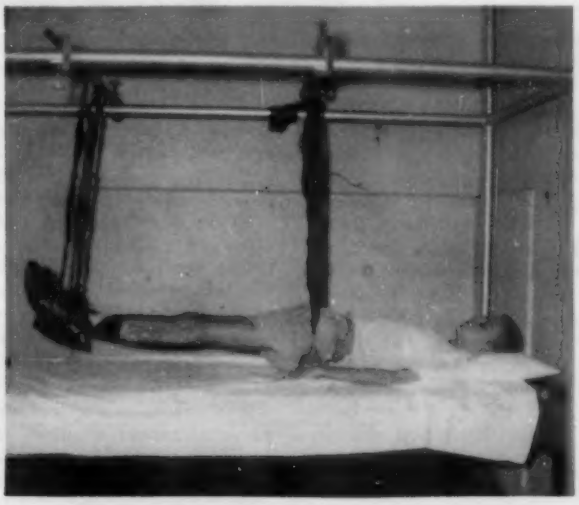


Figure 1. Trunk exercises (legs and hips suspended)

Figure 2. Sitting exercises for trunk (feet on stool)

Figure 3. Neck exercises (supine)

Figure 4. Drop-foot splint (figure of eight type)

ber several times at the crossing point. (see fig. 4).

Hip flexor assist

The hip flexor assist is made from a continuous strip 1 inch wide and long enough to reach from the waist to the shoe with additional length available for attaching. The tubing is fastened to a waist belt on the side adjacent to the involved hip. It is brought down along the anteromedial aspect of the thigh to just above the medial femoral condyle. There it is taken around the thigh and looped. The rubber is stretched sufficiently to provide hip flexion. The remaining end is carried on down the medial aspect of the leg and attached to the shoe (See fig. 5). If adduction is desired the band may be attached to the belt on the uninvolved side and crossed diagonally to the knee.

Extension stabilizer

The hip and knee extension stabilizer consists of 2 pieces of tubing 3 to 4 inches wide and long enough to permit strapping as shown in figure 6. The tubing is passed around the waist on the side of involvement and both ends are carried down over the gluteus maximus, are crossed posteriorly, and brought forward. The bands are then crossed below the patella and carried posteriorly to permit crossing behind the calf before passing to the dorsum of the foot where the ends are tied (See fig. 6).

Crutch mover

The crutch mover consists of several circular strips of rubber about ¾ inch wide which are looped together. One end is looped around leg of crutch on involved side. The other end is put over the anterior end of arm pad of uninvolved side with slight tension. If crutches tend to

Figure 5. Soft splint: Hip flexor

Figure 6. Soft splint: Hip-knee extension stabilizer

Figure 7. Crutch mover for weak shoulder flexors

slip out from under the axilla use a similar piece of looped rubber and attach to posterior bar of crutch on involved side. Bring diagonally across scapula and attach to anterior tip of arm pad on uninvolved side (See fig. 7).

Preparation of materials

The material is prepared by cutting into desired width and length then washing in cool water and wiping dry. The rubber may be cut in circular strips or in a continuous line around tube to length desired. Thin strips of about 1 inch in width are used for assistive exercise to severely involved parts. Wider widths of 3 to 4 inches are used for resistive exercise and support of heavy body parts. Triangular circular strips may be cut for joint support and for the head with cutouts for the ears. The circular strips are looped one with the other until the desired length is obtained.

Necessary precautions include care in cutting the tubing so as to avoid twisting and rolling, adjusting the tension properly lest passive motion be introduced due to the rebound of the tubing, and the observation of the patient's reaction to suspension for a period of time since there may be a tendency for numbness to occur. After long usage the tubing cracks or breaks and should therefore be inspected and replaced as necessary.

Editorial

Continuing Education

In the performance of our duties as physical therapists we serve constantly as educators and, since the purpose of education is to produce changes which will improve human behavior, we serve as change agents. This function as a catalyst presents a dual but interlocking challenge to the physical therapist: one in which he attempts to assist the patient to change his behavior in order to accomplish the objective of his treatment; the other in which he attempts to change himself into a more efficient professional person to assure better service. It is with the latter aspect that this editorial is concerned.

Constructive change is brought about by several factors: a desire to find a better method of performance, an ability to view the status quo tri-dimensionally (what is the present picture, what do I wish to accomplish, what methods can I use to reach these objectives), and the willingness to participate actively in the steps necessary to produce changes. Every right has its responsibility—our right to designate ourselves as professional persons implies that we accept also the responsibility of changing into professional persons in every facet of our activities. Thus, the physical therapist must be a lifelong student to keep abreast of developments related to medicine, social sciences, and the technics of our profession. Continuing education provides the opportunity to augment and modify basic knowledge, acquire new skills, and develop critical thinking and balanced judgment.

The basic physical therapy curriculum introduced us to the fundamentals of the art and science of our profession. We must build on that foundation through constant exploration, investigation, and practice to assure revision of old concepts, acquisition of new knowledge, and improvement of skills and abilities. This becomes a mandate when we read in the 56th Annual Report on Medical Education in the United States and Canada that: "During the past few years, for instance, more has been added to the factual knowledge of the prevention, basic mechanism, diagnosis, and treatment of disease, than was discovered in the previous several centuries combined."

Abundant educational experiences are open to physical therapists

Editorial

through reading of scientific and professional literature, attendance at professional meetings, participation in formal or informal instructional courses, and through learning from other persons—the professional, the layman, and the patient. Educational needs vary considerably as should the program planned by each physical therapist to advance his professional growth and development. Continuing education through planning or participating in in-service programs, through participation in full or part time graduate study, through active participation in community and civic activities will bring much benefit to the person involved as well as provide the opportunity for the sharing of knowledge and experience with colleagues and others.

Life presents many opportunities for change which will go unnoticed unless we are sensitive and aware of the tremendous human potential for growth which lies within each person. As professional people we must become involved actively to assure good service—involvement leads to evolvement, evolvement to growth. The experience gained through growing leads to discrimination—discrimination to wisdom. Wisdom is one of the intangible, hard-to-measure qualities that will bring worth and meaning to our individual and collective efforts.

Now that physical therapy is known and accepted for the contribution it has to offer, we must devote a constantly increasing amount of our energies toward improving the quality of our service. Mastery of knowledge permits personal and professional security which will be transmitted to those with whom we work and associate, as well as to the patient. Each of us must accept this challenge—for "history moves on a thousand feet, not two."

HELEN HICKEY
Educational Consultant

Marriages

Ellen Conklin, of San Luis Obispo, Calif., now Mrs. Ellen C. Niemuth, San Luis Obispo.

Joan Douglas, of Englewood, N. J., now Mrs. Joan D. Moore, Englewood.

Dorothy Green, of Kansas City, Mo., to Harlan J. Mohler, Honolulu, Hawaii.

Viola Hatch, of Wells, Me., now Mrs. Viola H. Wormwood, Troy, N. Y.

Mary P. James, of Wauwatosa, Wis., to Eugene C. Kirby, Milwaukee, Wis.

Donna Johanson, of San Francisco, Calif., to Bob G. Whitley, San Francisco.

Hyla Kimenker, of West Hartford, Conn., now Mrs. Hyla K. Berman, Boston, Mass.

Carol Krohn, of Detroit, Mich., to Allan G. Becker, Detroit.

Kathryn Leonard, of San Francisco, Calif., to George Loudis, San Francisco.

Glynn Lott, of Dayton, Ohio, now Mrs. Glynn L. Washington, Detroit, Mich.

E. Lorraine Magnuson, of Boston, Mass., to C. Michael Mohr, Boston, Mass.

Millie Plyler, of Greenville, S. C., to Robert E. Donkle, Columbia, S. C.

Olive Ratkiewich, of Bethesda, Md., to F. Robert Knight, Denver, Colo.

Donna Robinson, of Palm Springs, Calif., now Mrs. Donna R. Burns, La Crescenta, Calif.

Lumida Rodriguez, of Caguas, P. R., now Mrs. Lumida R. Viscal, Caguas, P. R.

Marilyn Joy Smith, of Iowa City, Iowa, to Richard L. Waste, Iowa City.

Judith Tite, of Cohasset, Mass., to Walter S. Almeda, Presque Isle, Me.

Nancy Van Wie, of New York, N. Y., now Mrs. Nancy V. LaForest, Riverdale, N. Y.

Diane Williams, of Findlay, Ohio, to David C. McCullough, Columbus, Ohio.

Elinor Wilson, of Boston, Mass., to Robert E. Clarke, Boston.

Marilyn Wynn, of San Bernardino, Calif., now Mrs. Marilyn W. Pilmer, San Bernardino.

Association News

AHA—APTA Institute for Physical Therapists

An Institute for Physical Therapists will be held at the Somerset Hotel in Boston, Massachusetts, Nov. 4-8, 1957. It is being conducted by the American Hospital Association in cooperation with the American Physical Therapy Association and sponsored by the New England Hospital Assembly, the Massachusetts Chapter of the American Physical Therapy Association, and the Massachusetts Hospital Association.

The Program will include the following:

- Organizational structure of the hospital
- Economics of providing hospital care
- Problems in administration of physical therapy service —
  - Financial management
  - Interdepartmental relationships
- How to improve performance within the department —
  - Utilization of professional personnel
  - Effective use of nonprofessional assistance
  - Providing leadership through supervision
- Staff motivation —
  - In-service educational programs
  - Teaching responsibilities
- Medical-legal aspects
- Medical direction
- Accreditation programs for hospitals
- Why are records and reports necessary?
  - Patient's medical record
  - Departmental record
- Professional resources available to the physical therapist
- Community resources available to the physical therapist
- Disaster planning —
  - The physical therapy department's part in the over-all hospital plan
- Telling your story —
  - Desirable promotion for the physical therapy department
  - . . . within the hospital
  - . . . within the community
- Legislation affecting legal licensure and/or registration as it relates to professional practice
- The American Physical Therapy Association and the American Hospital Association working together

If you have not received an announcement of the Institute, write to the National Office for an application form.

Foundation to Study Postpolio Medical Needs

The following letter to physicians will be of specific interest to physical therapists who will all be anxious to lend their cooperation in a final assault on polio.

THE NATIONAL FOUNDATION
FOR INFANTILE PARALYSIS
301 East 42nd Street
New York 17, N. Y.

July, 1957

DEAR DOCTOR:

The great advances made by modern medicine in the treatment and rehabilitation of severely handicapped patients provide inspiration and satisfaction to all of us.

A spot check of known polio cases indicates that among 423,000 reported since 1938 there are many who might benefit by a medical reappraisal at this time.

The National Foundation for Infantile Paralysis is now compiling a nationwide roster of all postpolio cases to serve as a basis for an intensive study of their current medical needs. One of our chapter officials may ask your help in completing this roster. We have had your cooperation in the past and we know we can count on it again.

Of the 109,000,000 Americans under 40 years of age, more than 68,000,000 have already received at least one inoculation of Salk vaccine. For this remarkable achievement and for your continuing efforts to see that all receive the necessary three injections, you have the enduring gratitude of both the American public and ourselves.

Sincerely yours,
THOMAS M. RIVERS, M.D.
Medical Director

Letter to the Editor

July 11, 1957

TO THE EDITOR:

The article, "Principles of Underwater Exercise," which appeared in the June, 1957, issue of the *Physical Therapy Review* (Mary Elizabeth Kolb, U.S.A.) has most certainly contributed to a better understanding of the basic principles employed in utilizing warm water as a therapeutic medium. The author deserves credit for the clear and logical construction of this paper which was read at the Second Congress of the World Confederation for Physical Therapy held in New York, June, 1956.

The author's statement "Probably the most well known application of underwater exercise is that of localized muscle reeducation" may be questioned by some. The author continues, "Generally speaking, this type of activity is most useful for patients with flaccid paralysis who have Trace to Poor power in individual muscle groups. In the water these patients can perform movements that cannot possibly be done on a treatment table. Exercises can be more finely graded from active assistive to resistive utilizing hydrostatic and hydrodynamic forces than is possible when using air as the exercise medium." In summing up the physiological effects the author states, "The warm water has a sedative effect on the sensory nerve endings in the skin." This last statement though often quoted is little understood either physiologically or psychologically. The question one may raise is whether sedation of peripheral nerve endings for the purpose of finely localized muscle reeducation is desirable. Do finely graded and localized exercises not depend on an exceptionally keen and wide-awake sensory mechanism in the patient as well as in the therapist? In order to help a patient to produce voluntary contractions of Trace or Poor muscles it is often necessary to add sensory stimuli rather than to sedate them. It may be a surprise to some but a well known fact to others that patients not infrequently request muscle reeducation to be done prior to applications of heat. The patient seems to be aware of the need for keen proprioceptive awareness which becomes dulled — to him — with applications of heat.

This is not to question the many beneficial effects of warm water which the author so ably presented in this paper. There is no need to question the fact that the patient — if permitted — can obtain a sense of achievement through movements in the water not available to him, unassisted, on dry land. However, is it justifiable to repeat the oft-quoted "benefit" of underwater therapy that "in the water patients can perform movements that cannot possibly be done on a treatment table"? Is this not misleading the patient by allowing him to interpret these "movements" as the result of painstaking localized kinesthetic learning? Is it not inviting disappointments when the patient is faced with the fact that he cannot repeat on the table what he thought he had learned in the water?

Again this is not meant to question the benefits that can be had in preparing towards ambulation or total body coordination. This is merely taking issue with the usefulness of warm water as a medium for the purpose of localized muscle reeducation. On the other hand if the psychological effect of movement as such is considered of prime significance for the patient no medium available to us can replace warm water.

It may be well to consider more clearly the specific purpose of a therapeutic medium and identify its limitations realistically. An attempt should be made to clearly separate a situation where therapy is administered with the patient essentially the recipient of physiological and psychological benefits of the medium from one where the patient is an active participant in a learning situation.

SUSANNE HIRT
Director, School of Physical Therapy
Medical College of Virginia
Richmond 19, Virginia

Occupational Therapists Celebrate Fortieth Anniversary

The American Occupational Therapy Association celebrates its Fortieth Anniversary with the Annual National Institute-Conference to be held October 21-25, at Hotel Carter in Cleveland, Ohio. Occupational therapists from all over the United States will attend and take part in the program.

The general plan is to follow an institute-workshop type of meeting, with opportunity for all people attending to take part in small group discussions. Emphasis will be placed on group technics and the occupational therapist's role in the therapeutic situation. A panel, consisting of representatives from several allied professions as well as occupational therapy, will discuss the evaluation of the patient.

WORLD CONFEDERATION FOR PHYSICAL THERAPY *News*

Meeting of Executive Committee World Confederation for Physical Therapy

The Executive Committee of the World Confederation for Physical Therapy met July 17-20 at Selwyn College, Cambridge, England. Present were G. V. M. Griffin, Great Britain, President; Mildred Elson, U.S.A., First Vice President; Rudie Agersnap, Denmark, Second Vice President; J. Dupuis-Deltor, France, Third Vice President; Gwen Gower-Rees, Canada; Sylvi Honka, Finland; and J. S. Rein, Australia, deputy for Margaret Verco; and M. J. Neilson, Hon. Secretary-Treasurer. Apologies for absence were received from the Swedish Association, Kvinnliga Legitimerade Sjukgymnasters Riksforbund. One of the main topics was, of course, the Third Congress to be held in Paris, Sept. 7-13, 1959. M. Dupuis-Deltor outlined general plans for social events and the program. The latter is still in the process of being developed and will be announced in due time. The Congress will be held in the new Faculty of Medicine Building on the Left Bank. The procuring of this new and modern facility is a "feather in the cap" of the French Committee. Many good things are being planned but cannot be announced at this time.

The Committee approved a draft of an International Code of Ethics or Ethical Principles. These will now be referred to all member organizations for review and action. These principles are primarily for guidance of new associations.

Miss Neilson and Miss Elson are to collaborate in the preparation of two or three documents based on the conclusions reached at the Educational Seminar, June 1956. These will serve as guide-lines for physical therapists accepting assignments in countries where physical therapy is just emerging as a profession and to the agencies sponsoring such service.

It is recognized in global health programs that priority in service must be given to raising the general level of the health of the people—better nutrition, sanitation, and eradication of diseases such as malaria and yaws. However, the need for more specialized services such as rehabilitation of the handicapped is fully recognized. These will come as technical assistance is able to raise substantially the general standards of family living. Both WHO and the Rehabilitation unit of UN urge us as a group to be prepared to assume our responsibilities as they arise. The educational documents are a part of that preparation.

The World Confederation as yet cannot afford a full time paid executive. Therefore, each member of the Executive Committee must contribute personal time to develop resource material. Global distribution of the Committee provides for representation without great expense at international meetings held in different countries. This has advantages since in a period of three years each of the several members of the Committee may have the opportunity to attend one of these meetings, become acquainted at first hand with the problems the agencies face, and see more clearly the role of the WCPT in global health programs. At some future date, however, we hope that we can assume responsibility for an office and paid executive.

The Confederation has developed rapidly in the six years of its existence. Much of this is due to the fact that it was given a home by the Chartered Society and the services of an able executive to be its Hon. Secretary and Treasurer. The APTA has given substantial financial support with three donations by its members and with funds from the Second Congress which have contributed greatly to the Confederation's growth. The World Confederation, however, cannot yet pay extensive travel expense and the expenses of each one of us at the meeting were paid by his own organization.

The meeting was planned so that we might attend the Seventh World Congress of the International Society for the Welfare of Cripples which brought together many people from all over the world including delegates from WHO, UN, and the World Veterans Federation. In one

short week we were able to have discussions and renew acquaintanceship with far more people than we could have met in several weeks of travel. It was most interesting to be in Cambridge for a few days. The countryside is lovely and the gardens are beyond description. I did not go "punting on the Cam" but I saw the students punting and it looked like fun.

Before our Executive meeting started I attended the first session of the Administration Course sponsored by the Chartered Society. The Society like the APTA recognizes that physical therapists in charge of departments need a greater knowledge of administrative procedures and have taken steps to provide it.

One night we were guests at a lovely home of one of the members of the East Anglican Branch of the Chartered Society, together with the students attending an Administration Course. The next night we were guests of the supervising physical therapist of the hospital in Cambridge. She has 30 physical therapists to direct. She and two friends own a charming old house which we quite fell in love with. They are proud of a huge and lovely garden which shows what care and rain can do.

A visit to Cambridge would not be complete without attending Evensong at Kings Chapel. It is a magnificent Gothic chapel with lovely stained glass windows. If only the sun had come out so that one could really see them!

Each day the Executive Committee had its coffee and tea time with those attending the course as well as all our meals together. This gave me again an opportunity to see many more physical therapists than I would have otherwise. We all felt very much at home as many had been at the '56 Congress.

I am grateful to the APTA for its continuing support of the WCPT and of my participation in it. I find it most rewarding and particularly as I see it emerge as a full contributing member in the family of international organizations interested in the welfare of the handicapped. There is still much to do. As with any organization responsibilities increase with growth. It will grow for I feel it has worldwide support of physical therapists, and membership in the World Confederation is a goal for all those other countries now developing physical therapy services and schools.

Plan now for 1959. It's Paris!

MILDRED ELSON
First Vice President

International Society for the Welfare of Cripples

Seventh World Congress

London, July 22-26, 1957

It is a wonderful experience to be in attendance at a World Congress with no responsibilities. Although the Congress was held in London, the meeting hall, Church House, and the exhibition hall at Central Hall were filled with friends not only from home but from the world. Many had been with us in New York at the Second Congress of the World Confederation for Physical Therapy and recalled with nostalgia that busy and exciting week. Many physical therapists made a special effort to see me and to tell me how much they had enjoyed the Congress and their subsequent visits to all parts of our country. Those who could not come are hoping for another opportunity. Seven other APTA members attended: Lucille Cochrane, Margaret Moore, Barbara White, Beth Fowles, Rudolph Bloch, and Eleni Diamandidou who is now in Greece. The latter was with the fine exhibit of the Hellenic Society for Crippled Children. Miss Diamandidou attended the University of Southern California 1952-1953. She asked that her greetings be conveyed to Charlotte Anderson and all of her classmates. Mr. Bloch who has been in Israel for the past two years arrived on the last day of the Congress due to unfortunate travel delays. He is returning to New York. Beth Fowles who had been touring Europe with her husband and children was in charge of an excellent exhibit on Home Adaptions from Highland View Hospital in Cleveland.

One of the highlights for the physical therapists was a luncheon held in St. Ermine's Hotel. Arrangements for it were made by our good friend, Joyce Neilson, Hon. Secretary of the WCPT and Secretary of the Chartered Society. About 70 physical therapists and friends were present, among them Eugene Taylor, Mary Switzer, Sir Cecil Wakely, Sir Harold Boldero, and Sir Arthur Porrit. Dr. L. Guttmann, and Mr. Kurt Jansson were the luncheon speakers. Miss Switzer was prevailed upon to speak to the group as we feel

that she "belongs." She spoke at the Inaugural meeting in Denmark, at a similar luncheon held in the Hague three years ago, and at our Second Congress last June.

There were many notable events and famous visitors to the sessions and the exhibits. Most notable was Prince Philip who spoke briefly at the morning session on Tuesday and then visited the exhibit hall. Rudi Agersnap and myself were at the WCPT booth and were presented to the Prince by Dr. Rusk. Prince Philip asked a few good questions about physical therapy. We knew he was familiar with it since he has been treated by a Chartered Society Physiotherapist for the after effects of a fall he received while playing polo. He is most personable and pleasant. I would like to have inquired about Prince Charles and Princess Ann so as to give Lucy Blair a first hand report on them, but it didn't seem the thing to do. Other visitors included the Duke of Devonshire who was president of the Congress, the Lord Mayor of London and Lord Mayor of Westminster. One of the outstanding social events was the reception in Guild Hall with the Lord Mayor of London receiving. Those who were at the First Congress of the WCPT will recall our reception there.

The eighth Congress of the International Society will be held in New York in 1960 with the National Society for Crippled Children and Adults as host. The APTA, I am sure, will be called upon to arrange a luncheon for the World Confederation at which time we'll have the opportunity to greet many old and new friends from all over the world.

MILDRED ELSON, *First Vice President*
World Confederation for Physical Therapy

Chapter News

North Carolina

The July, 1957, newsletter presents 1957-59 Chapter officers, chairmen, and members of standing committees. All standing committees are composed of four to six members. This issue also includes five pages of News from Around the State representing eight areas of North Carolina. Items of interest from the Division of Physical Therapy, Duke University, and the newly established physical therapy program at the University of North Carolina are presented.

Pennsylvania—Eastern District

Eastern District's newsletter is supported financially by advertising and by providing service to organizations such as the Rheumatism and Arthritis Foundation, Association for Crippled Children and Adults, and the Multiple Sclerosis Society. When these local groups have information they wish to present to district members, the groups partially assume the cost of mailing. The District has purchased an addressograph at a cost of $10.95 which has been the principal factor in saving of funds formerly allocated for addressing newsletters.

Members' Publications

Professional Education Program for Rehabilitation Planning by Catherine Worthingham, Ph.D., Director of Professional Education, National Foundation for Infantile Paralysis, appeared in the *American Journal of Occupational Therapy*, May-June, 1957, issue.

Changes in Peripheral Blood Flow Produced by Short-Wave Diathermy by D. J. Abramson, A. J. Harris, P. Beaconsfield published in the June, 1957, issue of the *Archives of Physical Medicine and Rehabilitation* gives credit to June M. Schroeder for technical assistance. Miss Schroeder is Chief Physical Therapist, University of Illinois Research and Educational Hospitals.

Margaret Prior and Lavonne Jaeger of Kenosha Hospital, Kenosha, Wisconsin, are co-authors of a brief article, A Doll Used for Therapeutic Purposes, published in the June 1, 1957, issue of *Hospitals*, the Journal of the American Hospital Association.

Braces and Brace Management by Erbert F. Cicenia, Ed.D., and Morton Hoberman, M.D., is published in the June, 1957, issue of the *American Journal* of *Physical Medicine*. Mr. Cicenia is Director of Physical Rehabilitation, New York State Rehabilitation Hospital, West Haverstraw, New York.

New Student Members

Puerto Rico School

Elizabeth Arrigoitia-Gomez	Luisa Martinez Rosa
Eldra C. Bauza	Luz Selenia Morales
Olga L. DeCastro	Evelyn Pujals-Torres
Juan Lloveras-Avila	Sara N. Rodriguez Reyes

Ileana Toro Chamorro

Student Column

Open Letter to a Student

October 1957

DEAR SUE,

It was good to get your letter and find that you are enjoying your class work in physical therapy. This year will certainly pass quickly and then you'll be out working as a full-fledged P.T. — plenty of staff jobs open around here if you're interested!!

I'm glad you asked the questions you did in your letter about the Registry. You are certainly not the only student (or for that matter, graduate P.T.) who is confused about the differences between the American Registry for Physical Therapists and the American Physical Therapy Association. I'll try to explain these differences to you in this letter and will hold off your other questions for another time.

The American Registry of Physical Therapists was established and is conducted by the American Congress of Physical Medicine and Rehabilitation — one of the organizations of physicians who are interested in physical medicine. The Registry is exactly what the name implies — it is a private organization which lists persons who are qualified to administer physical therapy. The Registry is not in any way a professional association.

To be placed on the list, a physical therapist must be a graduate of an A.M.A. approved school, complete an application, and pass an examination which is prepared for the Registry board by a consultant in testing. The fee for taking the test is $15.00. Upon meeting these requirements, the person becomes a "registrant member" of the American Registry. Registrants have none of the privileges which the word "member" usually connotes, since, as I said before, the Registry is not an association. Rates for maintaining registrant status are $3.00 per year.

The Board of the Registry, appointed by the American Congress of Physical Medicine, is composed of seven physicians and two physical therapists. The physical therapist members of the board are designated by the American Physical Therapy Association. These two members represent the only voice physical therapists have in the policies and affairs of the Registry.

Let's turn now to the American Physical Therapy Association. The APTA is the professional organization of and for qualified physical therapists in this country. It is the association which has continued to promote the profession of physical therapy and the interests of its membership since its founding in 1921.

The APTA has 58 chapters with 45 districts which are located in all of the 48 states, Alaska, Hawaii, and Puerto Rico. It is these local groups which prepare programs of lectures and demonstrations on scientific topics of interest to physical therapists, who discuss local professional problems and seek their solution, and from whom comes the governing body of the Association, namely the House of Delegates. Each chapter elects a number of delegates according to the size of its membership, and these delegates, at the annual conference of the APTA, decide the by-laws and policies which will promote the objectives of the Association. The House of Delegates also elects the national officers. These elected officers comprise the Board of Directors and they carry out your wishes and mandates in the interim periods through the staff of your National Office. Thus in the APTA, you . . . the individual physical therapist . . . are the vital functioning part of the organization. *Your* organization is only as good and as strong as *you* are.

As the recognized professional body, the APTA reflects at all times the status of the profession. It is constantly striving to improve standards of education and practice, to maintain ethical performance, and to improve personnel policies. Your association also works to advance state legislation which is in the best interests of patient care and which will protect the public health.

It would be too lengthy here to discuss the services which are performed by the APTA and those provided by the Registry, so I'll write you of those at another time.

As you can see, I have been leading up to your second question . . . who may be affiliated with the Registry and with the APTA?

First of all there is one point that must be made clear. That is, just what graduation from an approved school of physical therapy means. Physical therapy curricula are approved by the Council on Medical Education and Hospitals. This

Council is a part of the American Medical Association. Neither the APTA nor the Registry are a part of this Council, but both may make suggestions to it regarding educational standards. At the present time when a new school requests approval, a physician designated by the Council and a representative of the APTA make the evaluation visit to the institution. Their recommendations are forwarded to the full Council for action. When a student completes the course in physical therapy in one of the (now 37) schools which have the approval of this group, he is qualified to administer physical therapy under the prescription of a licensed physician.

Graduation from one of the approved curricula is the prerequisite for membership in the American Physical Therapy Association.

To have your name included in the listing of the American Registry you must be a graduate of an approved school and you must also pass the Registry examination which I told you about in answer to your first question.

One point which I must emphasize to you again is that graduation from an approved physical therapy curriculum is the criterion for qualification as a physical therapist. If you successfully complete all requirements of your school, you are a qualified physical therapist and the additional passing of the Registry examination or becoming a member of the APTA do not affect your qualification to practice.

Please keep in mind, however, that affiliation with your professional association, the APTA, is one of the best means of indicating your qualifications. Membership in a professional association carries with it prestige, recognition, and adherence to high standards which can accrue to you in no other way.

You must be cautioned at this point not to confuse a registrant of the American Registry and a person who is *legally* registered or licensed in one of the states which has laws regulating the practice of physical therapy.

Twenty-seven states, Alaska, and Hawaii now have laws regulating the practice of physical therapy. In some of these states the law is called a "registration law"; in other states "licensure" is the term. Be sure to inquire as to whether legal registration is required in your state for it is your obligation as a professional physical therapist to comply with the law. And again, remember . . . *legal* registration under a state law and being a registrant of the American Registry of Physical Therapists are *not* the same thing.

Well, I must run along for this time . . . got a date with a set of golf clubs this weekend. Study hard for that neuroanatomy test!!

I will be in touch with you again soon and will answer more of your questions about these two groups which are of concern to all of us.

Until next time. . . .

JEAN

Iowa Students Participating in Research

Participation in a physiology research project was one of the more worthwhile extra-curricular undertakings of the State University of Iowa's 1957 physical therapy class. The group of 28 students acted as normal controls in a project designed to determine the effect of different patterns of local exercise on the peripheral blood flow.

The project was under the direction of the departments of physiology and orthopedic surgery with A. C. Bauer, E. R. Vanderhoff and C. J. Imig, performing the research.

Venous occlusion plethysmography was used to determine the volume blood flow through the forearm before, during, and following different patterns of local exercise. Isometric and isotonic hand grips of various intensities and durations were the types of exercises performed. It was found that during an isometric hand grip of low intensity the blood flow was greater than the pre-exercise level of flow. More intense exercise caused the blood flow to drop below that of the pre-exercise flow. After the initial decrease, the amount varying directly with the intensity of the exercise, the blood flow increased progressively to a certain point. Following release of the grip the blood flow increased proportionately to the amount of exercise. It then gradually returned to the resting level.

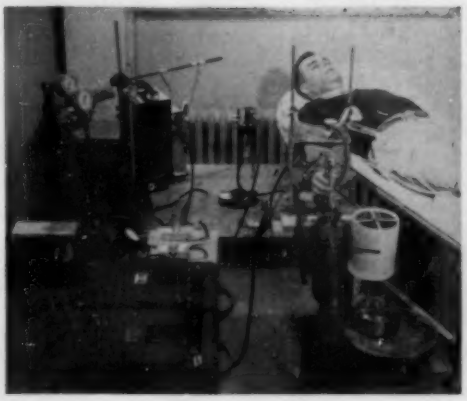
The results of the study also revealed that the maximum increase in blood flow following equivalent intensities and durations of rhythmic and sustained hand grip were proportional to the work done during the rhythmic hand grip or the effort exerted during the sustained hand grip. Rhythmic exercise caused the blood flow to remain greater for a longer period of time following exercise than did sustained exercise.

Results of this research project are to be used as a diagnostic procedure for the early detection of peripheral vascular disease and as an index to its severity. In persons with peripheral vascular disease the resting blood flow is normal, but

following exercise the blood flow does not increase as it does in normal persons.

All the students taking part in the study were tested three different times to determine accurately the maximum hand grip which was used in the experimental data. Blood flows were recorded on four different occasions. The male members of the class were tested under basal conditions.

The research staff presented a thorough and interesting explanation of the apparatus to be used and a brief résumé of the purpose of the project and the procedure to be followed while the hand grips were being recorded. Questions were urged throughout, and many a student satisfied his curiosity on many subjects related to physiology in general between the recording of blood flows.



Measurement of blood flow

The project gave students the practical experience of being a part of a research team, even though it was only as subjects. From this they obtained an awareness and appreciation of the special problems encountered in the field of research, as well as an understanding of its meaning and usefulness. This is certainly essential to professional growth in this era of comprehensive medical care.

JO ANNA WENDEL
State University of Iowa

General News

Hospital Statistics 1946-1956

The ratio of hospital admissions to population in the continental United States outstepped the total population increase in the 11-year period 1946-1956, according to the annual report on hospital statistics published in the Guide Issue of *Hospitals,* Journal of the American Hospital Association.

Admissions to hospitals of all types in 1956 were 22,089,719, or 132 per thousand population. In 1946 the rate was 112 per thousand population. Had the ratio of admissions to population remained constant at the 1946 level, there would have been only 19 million admissions in 1956, rather than the actual 22 million reported. Over the 11-year period, the number of admissions climbed 41 per cent, and from 1955 to 1956, nearly 5 per cent.

The hospital statistics were compiled from questionnaires sent to 6,966 hospitals listed by the American Hospital Association in its annual directory of hospitals. These statistics cover the years from 1946, when the Association began its statistical series, through 1956.

The 6,966 hospitals in the continental United States had 1,607,692 beds and an average daily census of 1,355,792 in 1956. Of these hospitals, 51 per cent were nonprofit, 17 per cent proprietary, 6 per cent federal, and 26 per cent state and local governmental hospitals.

The voluntary nonprofit hospitals led in number of admissions—nearly 15 million in 1956. Over 4 million admissions were to state and local governmental hospitals. Proprietary and federal hospitals each accounted for about 1.5 million admissions.

Of the average 1,355,792 patients in hospitals on any given day in 1956, 62 per cent were in state and local governmental hospitals, 24 per cent in nonprofit hospitals, 12 per cent in federal hospitals, and 2 per cent in proprietary hospitals. The large percentage of patients in the governmental hospitals each day reflected a high proportion of psychiatric and tuberculosis institutions providing predominantly long-term care.

Although less than 2 per cent of all admissions were to psychiatric hospitals in 1956, 53 per cent of all patients in hospitals on any given day were in psychiatric institutions.

The number of hospital births reported in 1956 was 3,491,141, an increase of 64 per cent over

1946 but only 1 per cent above the 1955 figure. Nearly 72 per cent of the total hospital births in 1956 were in short-term nonprofit hospitals, while 18 per cent were in nonfederal governmental hospitals, almost 6 per cent in proprietary hospitals and 4.5 per cent in federal hospitals, the Association's statistics showed.

Total hospital assets, first reported in 1947, rose in 10 years from less than $6 billion to more than $13 billion for all hospitals, an over-all jump of 122 per cent and a rise of 9 per cent from 1955 to 1956. At the same time, the total expenditure by hospitals for the care of patients passed the $6 billion mark in 1956, an increase of 207 per cent in 11 years and nearly 8 per cent in the last year. Payroll expense for all hospitals was almost $4 billion in 1956, an increase of 258 per cent in 11 years and a jump from 56 per cent of the total hospital expense in 1946 to 66 per cent in 1956, according to the Association.

Assets for the 3,165 nonprofit short-term hospitals in the continental United States totaled almost $6 billion. These hospitals spent almost $3 billion for patient care in 1956, a rise of 223 per cent from 1946 to 1956, and 9 per cent in the last year. Payroll expense was almost $2 billion.

Length of stay in short-term general and special hospitals, which had dropped from 9.1 to 7.8 days from 1946 to 1955, went down .1 day to 7.7 days in 1956, with a decrease from 9.7 to 9.4 days in nonfederal governmental hospitals. Length of stay in nonprofit short-term hospitals was 7.5 days, and in proprietary hospitals 5.6 days, unchanged for both these types from 1955 to 1956, the Association reported.

Nonprofit short-term hospitals in 1956 spent $24.99 per day to care for each patient, an increase of 149 per cent from the 1946 figure of $10.04. The rise from the 1955 level of $24.15 was a little over 3 per cent.

The cost to the nonprofit short-term hospitals for the average patient stay rose less than the hospital's cost per patient day during the 11-year period, because of the reduction in length of stay. From 1946 to 1956, the average cost to the hospital per patient stay rose from $88.35 to $187.43, an increase of 112 per cent as compared with the 149 per cent increase in the hospital's expense per patient day. Since length of stay remained unchanged from 1955 to 1956 in short-term nonprofit hospitals, the increase in cost both per day and per stay from 1955 to 1956 was about 3 per cent, the Association said.

Full-time personnel employed by all hospitals totaled 1,374,704 in 1956, an increase of 66 per cent in 11 years and nearly 6 per cent in the last year of the period.

In all hospitals in 1956, there was an average of 101 personnel per 100 patients, an increase of 28 people per 100 patients in 11 years. Short-term nonprofit hospitals had 213 personnel per 100 patients in 1956, while at the other extreme, nonfederal psychiatric hospitals had 31, the Association's statistical survey revealed.

Public Health Association To Help Communities Replace Outdated Health Procedures

To help communities to cope with new and changing health problems, including those of the nuclear age, the American Public Health Association is initiating a long-range technical development program.

The purpose, according to Dr. Reginald M. Atwater, executive secretary, is "to provide leadership, stimulation and guidance to governmental and voluntary agencies in facing health problems of the nuclear age. In some important areas of public health, methods and standards have remained virtually unchanged since the horse-and-buggy era."

Initial concentration will be in eight areas: radiological health, accident prevention, mental health, chronic disease and rehabilitation, child health, environmental health, medical care administration, and public health administration.

A committee of experts in each area will develop policy statements, write operating manuals, conduct field studies, surveys and demonstrations, and consult with state and local health authorities and agencies.

To coordinate the program, a technical development board has been appointed. Chairman is Dr. Martha M. Eliot, former chief of the U. S. Children's Bureau and now professor of maternal and child health at the Harvard School of Public Health, Boston.

Members of the technical development board are Dr. Gaylord W. Anderson, Mayo professor and director of the school of public health, University of Minnesota, Minneapolis; Miss Anna M. Fillmore, executive director of the National League for Nursing, New York City; Dr. Roscoe P. Kandle, deputy commissioner of health of New York City; Blucher A. Poole, state sanitary engineer, Indiana State Board of Health, Indianapolis; and Dr. Howard A. Shaughnessy, professor of public health, University of Illinois, Chicago.

Chairmen of technical committees are:

Radiological health—Dr. Daniel Bergsma, New Jersey state commissioner of health, Trenton;

Mental health—Dr. Ernest M. Gruenberg, research division, Milbank Memorial Fund, New York City;

Chronic disease and rehabilitation—Dr. Lester Breslow, chief of the bureau of chronic diseases, California State Department of Public Health, Berkeley;

Child health—Dr. Samuel M. Wishik, professor of maternal and child health, University of Pittsburgh Graduate School of Public Health, Pittsburgh;

Environmental health—Dwight F. Metzler, chief engineer, Kansas State Board of Health, Topeka;

Medical care administration—Dr. Dean A. Clark, general director, Massachusetts General Hospital, Boston;

Public health administration—Dr. Vlado A. Getting, professor of public health practice, University of Michigan, School of Public Health, Lansing.

To help committees to carry out their assignments, the association will add to its core professional staff and also utilize services of consultants, Dr. Atwater said.

Initiation of the technical development program is the first step in a three-year expansion and reorganization program for the 85 year old professional society he said. The total program will require a $250,000 increase in annual operating budget, to be reached by 1960. The Rockefeller Foundation has made a grant of $150,000 to help finance new activities during the three-year developmental period.

The program was recommended by a task force of outstanding public health authorities. The task force report and recommendations were adopted at the association's annual meeting in Atlantic City last November.

The report noted that public health has three broad areas of responsibility: promotion of personal and community health, maintenance of a healthy environment, and an aggressive attack on disease and disability.

In each of these three areas, according to the report, "flexibility of services is of paramount importance in adapting the health program to ever changing local needs and conditions."

"Public health should be ready and able to recognize these new problems early, and to develop programs designed to prevent and control sickness, disability and death from whatever cause," the report said.

"Health, welfare and education groups and agencies—by joining hands and including the general public in their planning—can contribute significantly to solving health problems of mutual concern and increasing the well-being of the people."

Among current priority health needs noted in the report are:

1. To increase the competence of individuals, families, and communities to cope with their own health problems;

2. To develop a safe environment in the home, on the road, at work and at play;

3. To extend the principles of the hygiene of housing to include adequate recreational space and special provision for such groups as children and older people;

4. To increase emphasis on air pollution abatement, stream sanitation, radiation control, and supervision of food processing methods;

5. To study continually health implications of such technological developments as chemical additives, agricultural changes, automation, new industrial processes, and changes in food and work patterns;

6. To maintain a full attack on the major unsolved health problems — cardiovascular diseases, mental diseases, crippling and handicapping conditions, cancer, dental diseases, diabetes and alcoholism — through prevention of occurrence or progression, early case finding, early treatment, rehabilitation, research, and training of personnel.

The American Public Health Association is the largest professional organization of public health workers in the Western Hemisphere, its 13,000 members include physicians, nurses, dentists, veterinarians, engineers, sanitarians, statisticians, nutritionists, entomologists, biologists, health educators, institutional administrators, and other specialists on staffs of governmental and voluntary agencies and in private practice.

Headquarters of the association are at 1790 Broadway, New York City.

Its president is Dr. John W. Knutson, assistant surgeon general and chief dental officer, U. S. Public Health Service.

Physical Therapy Programs

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

Schools offering the four year program leading to a baccalaureate degree accept high school graduates and transfer students. Schools offering the 12 to 16 months' program leading to a certificate accept students who have completed all or most of their undergraduate work providing they meet certain course requirements. Recipients of a degree and/or certificate have equal professional status. For specific information regarding each school's entrance requirements, tuition, and other fees, write to the physical therapy director indicated below. All students should investigate course requirements *early*.

	Degree	*Certificate*
CALIFORNIA		
Mary J. Dodge School of Physical Therapy Childrens Hospital Society 4614 Sunset Boulevard Los Angeles 27	‡	†
Ronald A. Hershey School of Physical Therapy College of Medical Evangelists Loma Linda	†	†
Lucille Daniels Division of Physical Therapy Stanford University Stanford (Palo Alto)	†	†
Margery L. Wagner Curriculum in Physical Therapy University of California The Medical Center San Francisco 22	†	†
Charlotte W. Anderson Department of Physical Therapy University of Southern California University Park Los Angeles 7	†	†
COLORADO		
Dorothy Hoag Curriculum in Physical Therapy University of Colorado Medical School Denver 20	†	†
CONNECTICUT		
Frances Tappan School of Physical Therapy U 101 University of Connecticut Storrs	†	
ILLINOIS		
Elizabeth C. Wood Course in Physical Therapy Northwestern University Medical School 303 East Chicago Avenue Chicago 11	†	†
IOWA		
Olive C. Farr Physical Therapy State University of Iowa Hospitals Iowa City		†
KANSAS		
Ruth G. Monteith Section of Physical Therapy University of Kansas Medical Center* Kansas City 12	†	†
LOUISIANA		
Isadore Brown, Acting School of Physical Therapy Charity Hospital of Louisiana New Orleans 12		†
MASSACHUSETTS		
Adelaide L. McGarrett Physical Therapy Department Boston University Sargent College 6 Everett Street Cambridge 38	†	†
Constance K. Greene Department of Physical Therapy *Bouve-Boston School, Tufts University Medford 55	†	
Shirley M. Cogland *Program in Physical Therapy Simmons College-Children's Hospital 300 Longwood Avenue Boston 15	†	†
MICHIGAN		
Virginia Wilson Curriculum in Physical Therapy University of Michigan University Hospital Ann Arbor	†	†
MINNESOTA		
Darrell D. Hunt School of Physical Therapy Mayo Clinic Rochester		†
Wilbur L. Moen Course in Physical Therapy University of Minnesota 860 Mayo Memorial Hospital Minneapolis 14	†	

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

	Degree	Certificate
MISSOURI		
Sr. M. Imelda, S.S.M. Department of Physical Therapy St. Louis University 1325 South Grand Boulevard St. Louis 4	†	
Beatrice F. Schulz Department of Physical Therapy Washington University School of Medicine 660 So. Kingshighway St. Louis 10	†	
NEW YORK		
Dorothy L. McLaughlin *Division of Physical Therapy The Albany Medical College Albany 8	‡	†
Mary E. Callahan Courses for Physical Therapists Columbia University College of Physicians & Surgeons 630 West 168th Street New York 32	†	†
Elizabeth C. Addoms Physical Therapy Curriculum School of Education, New York University Washington Square East New York 3	†	†
Mildred F. Heap Program in Physical Therapy University of Buffalo 2183 Main Street Buffalo 14	†	†
NORTH CAROLINA		
Helen Kaiser Division of Physical Therapy Box 3403, Duke Hospital Durham		†
OHIO		
Robert D. Kruse Course in Physical Therapy Frank E. Bunts Educational Institute 2020 East 93rd Street Cleveland 6		†
Gladys G. Woods School of Physical Therapy Ohio State University University Hospital Columbus	†	†
OKLAHOMA		
Thelma Pedersen School of Physical Therapy University of Oklahoma, Medical Center Oklahoma City 4	†	†
PENNSYLVANIA		
Dorothy E. Baethke Division of Physical Therapy University of Pennsylvania 205 S. 34th Street Philadelphia 4	†	†
Kathryn Kelley Curriculum in Physical Therapy D. T. Watson School of Physiatrics Leetsdale	‡	†
PUERTO RICO		
(All classes given in Spanish) Lutgarda V. Piñeiro School of Physical & Occupational Therapy Professional Bldg., 8th Floor Stop 22, Santurce	†	†
TEXAS		
Doris E. Porter Grady Vaughn School of Physical Therapy Baylor University Hospital Dallas 1	†	†
Cecelia J. Lee School of Physical Therapy Hermann Hospital Houston 25	‡	†
Ruby Decker School of Physical Therapy The University of Texas Medical Branch Galveston	†	†
VIRGINIA		
Susanne Hirt School of Physical Therapy Medical College of Virginia Richmond 19	†	
WISCONSIN		
Beth J. Phillips Curriculum in Physical Therapy Marquette University School of Medicine 561 North 15th Street Milwaukee 3	†	
Margaret Kohli Course in Physical Therapy University of Wisconsin Madison 6	†	†
U. S. ARMY MEDICAL SERVICE		
*Physical Therapy Course Army Medical Service School Brooke Army Medical Center Fort Sam Houston, Texas Write to: The Surgeon General Department of the Army Washington 25, D. C. Att.: Personnel Division		†

* Accepts women students only.

‡ Baccalaureate degree available from an affiliating college or university.

Please direct all inquiries regarding tuition, entrance requirements and other specific information to the school and *not* to the American Physical Therapy Association.

Abstracts

Some Current Concepts of the Etiology of Rheumatoid Arthritis

Ellis Dresner (Lemuel Shattuck Hospital, Boston), J. CHRONIC DIS., 5: 612-629, June 1957

Many of today's etiologic hypotheses of rheumatoid arthritis are still based on uncritical clinical impressions, but the following concepts, although far from being proved, have some weight of scientific evidence to support them.

With the discovery of the clinical effectiveness of corticotropin and of cortisone and its analogues in rheumatoid arthritis and other rheumatic diseases, attention of investigators into the cause of rheumatoid arthritis has been focused on the adrenal cortex in an attempt to ascertain whether functional disturbance of this gland, or of its response to pituitary stimulation, is responsible for the rheumatoid state. Studies investigating the effectiveness of the organism to metabolize endogenous hydrocorticone and the possible failure of corticosteroid metabolism peripherally in the tissues as a cause of arthritis may suggest factors which may be concerned in the production of arthritis. No direct observations are available in man bearing on a possible relationship of pituitary somatotropic hormones to the pathogenesis of rheumatoid arthritis.

Liver function may be disordered in rheumatoid arthritis, especially with regard to protein synthesis and carbohydrate metabolism. Structurally, the liver shows no histologic abnormality. Studies on the various functions of the liver have shown that 20 to 33 per cent of the patients have evidence of some minor hepatic dysfunction at some time, but there is no evidence of any primary dysfunction that could be etiologically related to rheumatoid arthritis.

The theory of allergy, or acquired hypersensitivity to a foreign protein, as the pathogenetic basis of rheumatoid arthritis has become increasingly prominent in the past 20 years, and to many observers a state of sustained allergic reaction in the tissues offers the only satisfactory explanation of this chronic, often lifelong, inflammatory process, involving connective tissues in almost all sites of the body. Clinical observations of the natural history of rheumatoid arthritis have yielded no information as to the possible role played by hypersensitivity in its causation, the evidence suggesting that it might do so is as yet indirect.

The relation of serologic agglutination phenomena (the sensitized sheep cell agglutination test) to the causation of rheumatoid arthritis is reviewed. The presence of an agglutinating factor in the gamma globulin fraction of the serum of patients with rheumatoid arthritis suggests, along with other data, that alterations in the composition of this fraction may play an important part in the pathogenesis of the disease—the clue may lie in the absence of the agglutination inhibitors which are normally present.

The Treatment of Degenerative Arthritis of the Hip

J. Albert Key and Lee T. Ford (Washington University, St. Louis), GERIATRICS, 12: 399-405, July 1957

Degenerative arthritis, or malum coxae senilis may develop in the middle or late adult life in hip joints which seem to be normal in contour and structure.

Since the disease is relatively common and the cause of much discomfort, it has received much attention from orthopedic surgeons and many surgical procedures have been used. Unfortunately, with the exception of arthrodesis, none of the procedures can always be depended upon to yield a satisfactory result in a given patient.

For the older patients with arthritis of the hip joint, the authors are especially interested in the conservative treatment. It is important that the patient understand the nature of his difficulty and realize that he has to live with his disabled hip and conserve it as much as possible. He must realize that conservation means protection and rest when the joint is painful. One means of resting this joint is the use of a cane. In fact a cane is the most valuable single therapeutic agent in the treatment of such hips.

If the patient is overweight or even of normal weight, loss of some of the weight will benefit the hip. For the relief of pain, acetylsalicylic acid is used. Dry or moist heat is used for its soothing effect. Hydrocortisone injected into the joint is one of the most rapid agents for relieving pain for several days.

When the hip is less painful, voluntary exercises are prescribed which include extension, abduction, and internal rotation. These are done with or without resistance. Hips of this type tend to develop deformities of flexion, adduction, and external rotation.

Physical Therapy in Rheumatoid Arthritis

James W. Rae and Leonard F. Bender (Medical School, University of Michigan, Ann Arbor), J. CHRONIC DIS., 5: 706-711, June 1957

In spite of new discoveries and advances in the treatment of rheumatoid arthritis, the most important part of the management of patients with this disease today is the prevention or minimizing of deformity and maintenance or improvement of function.

It is stressed that every physician who assumes the responsibility of caring for the patient with rheumatoid arthritis should recognize the need for establishing a program of symptomatic, constitutional and supportive measures designed to relieve pain, prevent or minimize deformity, preserve or increase range and muscle strength, and maintain or improve functional capacity.

The importance of an accurately written prescription for physical therapy is emphasized. The prescription should provide the following minimum information: 1) Diagnosis; 2) parts to be treated, 3) specifications regarding procedures or at least the major objectives desired; 4) special instructions regarding anesthetic areas, areas of circulatory embarrassment, removal of dressing, splints, etc.; 5) number and frequency of treatment; 6) date for reexamination by the physician; 7) and outline of home instructions, if indicated.

A listing of physical measures most commonly used in treatment of rheumatoid arthritis along with brief pertinent remarks regarding their application is presented. Therapeutic exercise is considered the most important single physical measure. Every patient should be placed on a schedule of activity which provides a balance between rest and exercise; the optimal daily average of rest in bed is 10 to 12 hours, but during exacerbations 12 to 24 hours may be indicated.

The physician plays a large role in motivating the patient to carry out an adequate treatment program. He should take the time to explain rheumatoid arthritis as a disease and

its natural course; he must outline the objectives of treatment to the patient and thoroughly explain the limitations of the various technics. The patient must eventually realize that it requires an investment of time and effort on his part and any benefits will be the result of his own hard work.

A home treatment program should include: demonstration of treatment technics by actual treatment, clearly written instructions, and a regular reevaluation of the program by the physician, so that the treatment may be modified according to changes in the patient's condition.

Osteoarthritis of the Cervical Spine

John G. Kuhns (Boston), BRIT. J. PHYS. M., 20: 132-139, June 1957

Osteoarthritis of the cervical spine is one of the most common disabilities encountered in the older patient. It is commonly slowly progressive. Increasing symptoms are at first mechanical in character and show muscular spasm and sprain in the cervical spine. As the disease progresses the symptoms tend to become neurological in character with nerve-root pain referred to the dermatomes of the nerve roots that are irritated. In the radiographs a little bony proliferation about the margins of the vertabrae and about the joints is first seen. This progresses until often there is bony bridging particularly in the spinal ligaments. The intervertebral disks become narrowed and may completely disappear. With this there are usually Schmorl's nodules but no other evidence of the fate of the intervertebral disk. Displacement of cervical intervertebral disks is not commonly observed. In the aged patient extreme bony overgrowth with disappearance of the disks is found with severe neurological symptoms and sometimes osteoporosis with vertebral collapse. Another occasional finding is forward displacement of the vertebral body usually unassociated with any neurological signs.

Treatment is wholly symptomatic: we are only beginning to learn about the prevention of osteoarthritis by proper postural management, suitable furniture, adequate treatment of early traumatic complaints, and a sensible regimen of rest and activity. Supports to the cervical spine, heat and exercise are helpful; medical measures including steroids are given only rarely, and surgery is not often required. Metastatic malignancy and other tumors are found not infrequently. With simple measures all but a few of the patients suffering from cervical osteoarthritis live a fairly active life in comfort.

Complications of Chordotomy

G. Horrax and E. G. Lang (Lahey Clinic, Boston), SURG. CLIN. N. AMERICA, 849-854, June 1957

The term chordotomy designates an incision into the spinal cord for the purpose of sectioning the spinothalamic tract for the relief of intractable pain. It is most frequently used for the lower extremities, pelvis, or trunk but at times is used also for the chest, arm, and shoulder.

Because of the highly technical aspects of this operation there are occasionally rather serious complications. Some patients as well as their physicians have received the erroneous impression that it is always followed by loss of bowel and bladder control and paralysis of the involved extremities.

One of the authors has employed chordotomy for 35 years and has found it beneficial in selected cases. It is preferable to rhizotomy since it involves a less extensive laminectomy.

There are three chief causes of failure of the operation to relieve pain as hoped. One, an inadequate sensory level leaves islands of preserved pain sensibility due to incomplete section of the spinothalamic tract. The second reason is an anatomical variation in which the pain fibers do not cross in the cord or are present bilaterally. The third is the choice of a patient with unstable personality or drug addiction. The choice of patients is sometimes difficult to make and if such a patient as mentioned above is chosen, the results will be disappointing.

Fifty patients who received one or more chordotomies at the Lahey Clinic were discussed. Twenty-five were operated because of recurrent or metastatic malignancy, 5 had intractable pain after herniated disk surgery, 6 were nontraumatic neuropathies, and 6 had pain following spinal or peripheral nerve trauma.

The mortality rate was 6 per cent. Five patients required a repeat of the operation due to incomplete section or extension of the disease beyond the limit of the previous chordotomy. All chordotomies were performed at one of three sites; between the 2nd or 3rd cervical segment, 1st and 2nd thoracic segment, or the 5th thoracic segment.

The most frequent complications were bowel and bladder disturbances lasting one to six weeks. In a few cases these disabilities were prolonged or permanent.

Sixteen of the 47 remaining patients developed some leg weakness. It was of slight degree in 9 patients, severe in 2 and moderate in 5. Improvement usually occurred over a period of several months and reached a plateau of permanent partial disability. Two patients became paraplegic.

In conclusion the authors state that 37 of 47 patients surviving their operations were completely or markedly relieved of pain for which chordotomy was performed. Of the 10 patients who received little or no relief, 3 had a conversion fixation on their pain and should not have been operated upon. One patient had an inadequate section at the time of discharge. Four others had recurrent pain after discharge, 1 was a morphine addict, and 1 had a severe functional overlay.

Mechanical Traction in Lumbar Disc Syndrome

W. B. Parson and J. D. A. Cumming (Red Deer, Alberta), CANAD. M. Ass. J., 77: 7-11, July 1, 1957

The number of cases of backache seen daily by any practitioner indicates that definitive treatment of backache has not yet been discovered. Backache and sciatica will be relieved by bed rest, and the period of bed rest will be decreased by traction on the hip. This traction has been applied in many ways. In 1950 at St. Thomas's Hospital in London a traction device was made and used for relief of the disk syndrome.

A study was made of 100 consecutive cases of disk syndrome treated by mechanical traction. The age range of patients was 17 to 74 and there were 69 males and 31 females. All cases were manipulated and then if indicated mechanical traction was used.

The patients were instructed never to bend forward and to develop a sway-back. To maintain the lumbar muscles in good condition, hyperextension exercises were given but the patient was advised never to exploit the improved condition by bending forward. If heavy work was to be done by the patient or if it

was felt that exercises would not be done, a lumbar brace in the form of a corset was added.

The treatment was carried out by the physical therapist. The patient was instructed to lie supine or prone on a table. Wide bands lined with foam rubber were placed around the patient's pelvis and midthorax. From these bands straps ran to a hook at the top and at the bottom of the table. A spring balance placed at the bottom hook measured the amount of traction. The traction was applied by means of worm screw under the table; 80 to 200 pounds of traction was applied for about 30 minutes. Daily treatments were given. Most patients experienced relief as soon as traction was applied. The average number of treatments given was 7.3.

Mechanical traction in this series of cases was successful. This treatment does not require bed rest and the period of disability was reduced and the incidence of laminectomy diminished.

Static Disorders of the Ankle and Foot

H. F. Moseley (McGill University, Montreal), CIBA CLIN. SYMPOS., 9: 83-110, May-June 1957

Posture of the normal foot, distribution of body weight, evolution of the human foot, and theories on stability of the foot are briefly reviewed. Generally speaking, the author regards muscular imbalance as secondary to structural in considering the explanation of static foot disorders. Muscular insufficiency is conceded to be the problem in certain cases of pes valgus as it presents itself in the overweight individual, in the patient after bed confinement, or after plaster immobilization for injury.

Many persons have feet of normal structure, but presenting low arches which are completely adequate. It is only when function is impaired and symptoms develop that a clinical problem arises. This may be in the way of acute or chronic foot strain from excessive use. Treatment in such instances consists of rest from the unaccustomed heavy weight load and graduated development of muscular strength by active resistance exercise.

Structural variations of size, shape, and functional qualities are noted in different persons. The type of foot known as *Morton's Foot*, is seen in approximately one third of the population. In the female this is probably the most common static derangement of the forefoot. The *hypermobile flatfoot with short tendo achilles* constituted 6 per cent of disabling disorders of the foot in a survey made by Harris and Beath, using as subjects 3,619 Canadian recruits for World War II. They believe this disorder is due to a lack of calcaneal support for the head of the talus. Two per cent of the subjects in this study demonstrated *peroneal spastic flatfoot*, another disorder which presented serious disability. Structural changes in this type of pes planus is usually found at the subtalar joint. *Calcaneo-talar bridge, calcaneonavicular bridge* and *accessory navicular bone* are mentioned as other structural anomalies which should be differentiated from the so-called "flattened" longitudinal and metatarsal arches.

Simple types of club feet are classified as talipes equinus, talipes calcaneus, pes varus, and pes valgus. Combined deformities are classified as talipes equinovarus or valgus and talipes calcaneovarus or valgus. The most common deformity is *talipes equinovarus*. Its occurrence has been explained by various theories, some believing it is a persistence of the intra-uterine position of the part, while later work suggests that it is an arrest of development due to some hereditary or biochemical derangement. There is no doubt that the deformity runs in families and tends to be associated with other stigmata. Treatment should be initiated at the earliest possible moment and consists of the component deformities being corrected and held in an overcorrected position until, on weight-bearing, the deformity is found to be corrected and active eversion possible.

Pes cavus is one of the most disabling deformities of the foot. Various etiologic factors result in this deformity, but the vast majority are of unknown cause. Treatment may be conservative or radical depending on many factors.

Hallux valgus is described as the commonest disorder of orthopedic significance involving the hallux. In most instances the deformity is acquired and is due to the mechanical factors resulting from improper shoes. This condition is not an isolated derangement of the great toe, but involves the forefoot, the foot as a whole, and the musculature of the leg. Irritation from the shoe causes the angular prominence of the joint with the overlying bursa to become inflamed and a bunion is produced. There is no evidence that an actual proliferation of bone producing an exostosis exists. The most popular surgical procedures are simple resection of the prominence of bone on the medial side along with the thickened bursa, the Keller procedure, and the Mayo procedure, the last two being more radical procedures.

Several other foot conditions are described in this article along with consideration of etiological factors, symptoms, and some indicated treatment procedures.

Posture and Comparative Anatomy as Guiding Principles in the Treatment of Back Disorders

J. Bradley Hoskisson (England), BRIT. J. PHYS. M., 20: 121-126, June 1957

Faulty spinal mechanics and peripheral pain can well be explained in terms of skeletal evolution and postural anomalies. Our present erect posture is a relatively recent, and to some extent unstable, anatomical arrangement. We have a double-S-curve, one S being composed of cervical and thoracic, the other of lumbar and sacral vertebrae. The erect posture and maintenance of head position is sustained by this series of spinal curves. Because of muscular weakness, imbalance, psychic state, and occupational posture, these curves are abnormally accentuated, obliterated, or added to, or both, by the consequential pattern of lateral curves and rotation. These in time give rise to slight derangement of the peripheral intervertebral joints, mechanical strain of the intervertebral disks, referred pain through nipped nerves, and habitual muscular strain and tension labelled "fibrositis."

The patient's spine and movements of the head are examined in a sitting position. Then with the patient standing the total posture is examined and lumbar and sacroiliac movements checked. In the prone position an examination of the spine and erector spinae muscles is made by palpation.

Treatment falls into the following groups: traction, relaxation, anatomical correction, postural balance, and histamine ionization. Traction alone frequently corrects slight lesions. Traction should be intermittent and smooth and preferably given manually. For this amount of traction no manual fixation is required. The body weight is adequate. Details of

the method of applying traction are given in the article.

Certain chronically tense patients may require a course of relaxation education. The average patient, however, should be made comfortable, have confidence in the treatment, and have a sense of rest before the time of manipulation.

Anatomical correction is done when the patient is relaxed. The author gives details of the procedures for the atlanto-occipital joint, seventh cervical vertebra, midthoracic region, lumbar region and the sacroiliac joint.

Most dissertations on posture and body function do not discuss the basic principles. The root of the matter is spinal compression. Position of the head is the primal point of consideration. By pulling the head upward and forward the rest of the body posture will correct itself. The system of body reeducation dealing with the relationship between neck and head, requires months or years, as it is largely carried out at a reflex level.

The postural mechanism should be discussed with the patient. Then with the patient in a standing position, pressure should be applied to the top of the head which will increase the spinal curves. The patient then walks with the pressure applied. Then traction is applied manually while the patient walks. Through this means the patient becomes aware of the proper sense of good posture and can practice alone.

Cervical Spine, Shoulder and Arm Pain

J. M. Meredith, C. E. Troland, and Joseph E. Kell (Medical College of Virginia, Richmond), VIRGINIA M. MONTH., 84: 280-285, June 1957

The clinical findings, diagnosis, and treatment of conditions causing pain in the cervial spine, shoulder, and arm are briefly discussed.

Scalene muscle compression syndrome and/or cervical rib. Pain usually caused by a cervical rib is unilateral beginning above the clavicle and extending down the arm to the ulnar side of the hand and occasionally to the median nerve side. Pain is increased by pressure on the scalenus anterior muscle. It is necessary to remove the cervical rib when present.

Cervical protruded disk. Pain is due to posterolateral extrusion of a herniated disk. It occurs most commonly at interspaces of C5,C6, and C7. If occurrence is at C4 there is only lateral shoulder pain and sensory loss. Symptoms are similar to those for scalene muscle compression syndrome but tenderness is localized also over the cervical spine. Surgical root decompression is indicated.

Cervical arthritis, spinal malignant metastases and cervical spine trauma. An X-ray examination is essential. Skull traction is indicated in certain cases to relieve root pressure.

Cervical and upper thoracic cord tumor. Symptoms may be similar to those mentioned above, or motor involvement may be more evident than is the pain. Spinal puncture is indicated.

Subacromial bursitis. There is usually exquisite pain in the region of the deltoid muscle. X-ray examination may reveal calcification of the bursa. Novocaine injections, diathermy, X-ray treatments, or excison of the bursa may be indicated.

Face Hand Test and Background Activity

T. Pasik and P. Pasik (Department of Neurology, New York University College of Medicine), NEUROLOGY, 7: 466-468, July 1957

Studies on disorders of perception show the method of double simultaneous stimulation to be unique in revealing disorders such as the phenomena of extinction (perception of only one of two stimuli applied to different areas of the sensory field) and displacement (mislocation of one stimulus in a predictable direction).

The phenomenon of extinction is best elicited by simultaneous stimulation of the face on one side and the dorsum of the hand on the contralateral side. The stimulus to the hand is most commonly extinguished and that to the face is always perceived. This is known as face dominance. Face dominance was the rule in subjects with aphasia, organic mental syndrome, and schizophrenia as well as in normal adults and children. In later studies which tested various combinations of two parts of the organism, the face was again the dominant region. The genital zone was next while other parts followed in a gradient with the hand showing the least dominance.

The persistence of face dominance posed several questions, some of which are: 1) Does the organism merely respond to the stimulus having the most significance in its total activity? 2) Can the pattern of face dominance be explained as a type of extinction or displacement to inattention? 3) Can the order of dominance be changed by directing more attention to a zone of least dominance as the hand? This study is an attempt to answer these questions.

The face-hand test was given to 500 psychiatric patients. Each patient was tested under two conditions; 1) in a sitting position with eyes closed and hands resting on knees, and 2) walking with eyes closed, the upper extremities extended forward, so that the hands or finger tips served as feelers. Subjects were given 10 trials under each condition. Each trial consisted of touching simultaneously and equally the cheek and dorsum of the contralateral hand. At times the hands were also touched on the finger tips. Patients were then asked to report where they were touched. Data from this test supported the theory of face dominance.

This study confirms that face dominance over the hand does not depend on the relative position in space of the body parts tested, nor on the function these parts were performing at the time of the examination, nor upon the factor of attention. This pattern of dominance which seems to be related to an inherent sensory organization becomes more apparent in diffuse brain disease.

Statistical Control Studies in Neurology; The Cutaneous Abdominal Reflex

M. J. Madonick (Morrisania City Hospital, New York City), NEUROLOGY, 7: 459-465, July 1957

Divergent figures have been reported regarding the incidence of absence of the cutaneous or superficial abdominal reflex in the healthy and in various physiologic and pathologic states.

Rosenbach noted its absence on the paretic side of hemiplegics but found it present in every instance of a large group of healthy persons. Kupferberg examined 36 patients most of whom had pulmonary TB, emphysema, or arthritis and found the reflex absent in 4 instances, 3 of which were over 40 years of age. Geigel found it absent in 8 per cent of 88 women. Plaesterer found it present in 99 per cent of 100 men.

Müller and Seidelmann examined 1,000 normal soldiers and found the reflex absent in only 1 case; in 2,000 non-neurologic female patients the reflexes were present in every case. The above is but a sampling of the large number of references used, all of which indicate the divergent results obtained from studies on this subject.

Two groups of people were studied. Group 1 was composed of 2,500 patients with non-neurologic disease admitted to the various services of the Morrisania City Hospital. Group 2 was composed of 1,000 non-hospital patients suffering from various psychoneuroses, ranging in age from 9 to 69 years.

The technic used to elicit the cutaneous abdominal reflex is described. There is also reference made to various opinions as to the area of the nervous system which governs this reflex.

Results of this study show that the cutaneous abdominal reflexes were absent in 16.9 per cent of group 1 and 8.4 per cent of group 2. There was a higher incidence of absence of the reflex with age and it was absent more often in females than males. Other evidence of neurological involvement was present in only 21 per cent of the cases that had absent cutaneous abdominal reflexes. Pregnancies, abdominal scars, obesity, and distended abdomens did not result in a great loss of the reflexes. The results of this study showed that the absence of the reflex is in itself not an indication of nervous system disease.

Conservative Therapy in Rheumatoid Arthritis

Marian W. Ropes (Massachusetts General Hospital, Boston), J. CHRONIC DIS., 5: 697-705, June 1957

The author presents long term follow-up studies of patients under a conservative regime of treatment. The difficulty in evaluating the percentage of patients improved after any therapy is recognized.

The features of the conservative regime are:

Rest — fundamental importance of bed rest combined with generalized active exercises when indicated is discussed. The amount of rest and exercise depends on the individual patient.

Emotional support — taken into consideration are social, environmental, and economic factors.

Salicylates — relief of pain is of paramount importance, and aspirin is still the drug of choice and should be given in full doses; daily doses of 5 to 6 grains or more are often required.

Physical therapy — its importance is emphasized. Active or passive exercises are indicated. Active exercises throughout treatment should in general be limited not by fatigue and pain occurring *during* but that persisting *after* exercise. Heat is indicated to improve function.

Support of joints — no weight-bearing or excessive use should be permitted with acutely inflamed joints or those with weak muscles. Support of joints in optimum position is stressed.

Surgical procedures — in carefully selected patients certain stabilizing procedures form a valuable adjunct to the treatment program.

Diet — it is generally agreed that a patient with rheumatoid arthritis should receive a well balanced diet; there is no proof that any food or class of foods is in any way harmful or that any alternative of a normal diet is of value.

It is felt that the conservative program, if faithfully carried out, will decrease the amount of crippling due to an attack of rheumatoid arthritis, but there is no evidence that it alters the natural course of the disease.

The Utilization of Fog as a Therapeutic Agent

Ralph M. Tovell and David M. Little (Department of Anesthesiology, Hartford Hospital, Hartford, Connecticut), ANESTHESIOLOGY, 18: 470-479, May-June 1957

In this article the authors describe a natural fog generator which has been installed in a full-sized patient room for the purpose of providing a form of humidification in the treatment of certain pathologic respiratory conditions. Humidification has long been recognized as a beneficial factor in certain types of infections of the respiratory tract. In earlier days, the steam kettle was used to provide humidification. It was later replaced in many hospitals by steam rooms. Steam humidification, however, has certain disadvantages, one being that the environmental temperatures may be raised so high that the patient not only becomes uncomfortable, but may actually become physiologically embarrassed if hyperthermia is already present.

The high humidity oxygen tent is another method of providing humidification and is a decided step forward. It provides combination of humidification, oxygen therapy, and patient comfort. Here again, there are disadvantages associated with this method. Adequate nursing care without disturbing the patient is more difficult; the internal environment is disturbed if the tent must be opened frequently; and confinement of an enclosed space is distressing to many patients.

"Fog rooms" (as they are called) have been in use for the past year and a half in Hartford Hospital, and show certain advantages over other types of humidification therapy. The most important advantages are the superfine particles of moisture provided and the fact that the fog contains more actual moisture than other forms of high humidity therapy.

Another advantage of the "fog room" is the production of extremely high degrees of humidity at a temperature that is comfortable to the patient. Although the humidity is high, the machine may be set for temperatures from 68 to 80°F. This permits continuous therapy. The natural fog generator also facilitates nursing care, according to the authors. Finally, it has proven to be ideal for the production of low environmental temperatures in the therapy of hyperthermia, a use which was entirely unanticipated when the apparatus was installed.

Ninety-five patients were treated utilizing fog as a therapeutic agent. The conditions treated were laryngotracheo-bronchitis, poliomyelitis, midbrain injury, bronchitis or asthmatic bronchitis, pneumonitis, and edema of the larynx. Results have been most promising in terms of the beneficial effects upon reactions, inflammatory processes, or both.

Respiratory Insufficiency as a Symptom of Cerebellar Ataxia

Armo L. Hormia (Neurologic University Clinic, Turku, Finland), AM. J. M. Sc., 233: 635-639, June 1957

With the supposition that cerebellar ataxia causes incoordination in the more complex motor activities, the author sets out to prove that in cerebellar disturbances there may also be ataxic disturbances in respiration, which is considered a complex motor activity. Seven case histories are cited with cerebellar ataxia as their common factor.

Results showed that pulmonary function was definitely impaired with maximum capacity only half the normal. Another factor noted was that inspiration was affected more than expiration due to the fact that the complementary air was relatively more reduced than the reserve air. Related closely with this respiratory insufficiency was the tendency toward respiratory tract infections.

Observations of the relationship between cerebellar ataxia and functional disturbance of the breathing muscles have been also reported elsewhere in literature. It is not the intent of the author to make definite claims based only on 7 cases, but rather to open the matter for further examination.

Evaluation of Grip Loss—A Factor of Permanent Partial Disability in California

John E. Kirkpatrick (San Francisco), INDUST. M. & S., 26: 285-289, June 1957 (Reprinted by permission from *California Medicine*)

Loss of grasping power is a ratable factor of permanent disability in California. In October, 1954, a subcommittee was authorized by the Council of the California Medical Association to study and evaluate various grip measuring devices and problems concerning measurement of grasping powers.

The evaluation of grip loss is a medical problem involving many factors and the dynamometer is only one method by which grip loss is evaluated. The subcommittees studying the dynamometer problem concluded that at the present time no medicine is entirely satisfactory. Factors which make dynamometer readings invalid are: (1) pre-existing injury to the extremity being examined; (2) pre-existing injury to the opposite extremity, making it unsuitable for grip comparison; (3) failure of the patient to put forth his best efforts; (4) confusion as to which is the major hand; (5) inadequacy of the dynamometer itself.

The Jamar dynamometer is at present being studied and is recommended as the most acceptable instrument manufactured at this time. It is equipped with a sensitive gauge calibrated in pounds per inch (pound force). It is important in these grip measuring devices that *grip force* be measured and not *grip pressure*.

The factors which most frequently result in loss of grasping power are: (1) amputation; (2) limited motion of hand, wrist, elbow, or shoulder; (3) pain; (4) muscular weakness.

Dynamometer readings alone are inadequate in establishing grip loss and the examiner should estimate in percentage what he feels the actual grip loss is.

The following should be reported in every upper extremity examination made for rating purposes: (1) dynamometer readings of injured and uninjured sides; (2) girth in inches of both arms and both forearms; (3) complete comparative measurements of each joint of the extremity, unless it can be stated that measurement has shown the joint range to be equal to the opposite normal; (4) distance in inches which the finger tips miss the midpalm; (5) a description of any pre-existing grip loss of the injured extremity; (6) a description of any pre-existing grip loss of the opposite extremity, together with the examiner's estimate of what the normal grip should be; and a statement regarding which is the major hand.

Benign Tumors of Peripheral Nerves and Their Masquerade

Henry W. Dodge, Winchell McK. Craig (Rochester, Minnesota), MINNESOTA M., 40: 294-301, May 1957

This article was an abridgement of the thesis submitted by Dr. Dodge to the Faculty of the Graduate School of the University of Minnesota.

Because most of the literature deals with the etiology and classification of benign tumors of the peripheral nerves, the author considered it important that attention be brought to the clinical manifestations of these tumors.

Mentioning briefly the history and multiple names applied to peripheral nerve tumors, the author then applies himself to the results of present case studies of 343 solitary benign tumors. Between 1909 and 1948 inclusively, all of these tumors were removed surgically at the Mayo Clinic. All but true benign tumors were excluded from this study, ruling out those resulting from trauma, amputations, metastases, malignancy, or lesions possibly due to Recklinghausen's disease.

Seven cases are mentioned to illustrate the deceptive masquerade presented by these tumors. Case one involved a 51 year old man who slipped and fell on a concrete slab with severe pain radiating through the anterior and lateral aspects of the entire right leg. The type and duration of pain was suggestive of an intraspinal tumor, but upon palpation, a nodule was discovered in the area of the peroneal division of the right sciatic nerve and removal of this completely relieved the pain.

Six other such cases are described in detail. From these illustrations it can be determined that tumors near vital anatomical structures are first noted through symptoms characteristic of these structures due to pressure or actual attachment. Tumors in the thorax and abdomen are often silent, but those of the neck and shoulder very often produce startling symptoms despite their slow growth.

Symptoms most commonly noted are lumps, pain, and lastly, paresthesia. A peripheral nerve tumor may be suspected, however, even with the paucity of sensorimotor defects if a mass is palpable along the course of a nerve and can be moved laterally but not longitudinally. Not all tumors are neurofibromas; in fact, some may actually be sarcomatous. They can be found on all parts of the body.

Treatment of such tumors is entirely surgical. If situated near vital parts or Recklinghausen's disease is suspected, complete excision is recommended; however, if motor nerve trunks are involved, enucleation has proved sufficient. Roentgen therapy is of little value.

In the latter part of this article, the author mentions several surgical approaches to various parts of the body and illustrations are included. Surgery thus performed is followed in the latter part of the same week by gentle manipulation in physical therapy. Recurrence of tumors is minimal and the general prognosis is excellent.

Compression Neuropathy of the Median Nerve in the Carpal Tunnel

George S. Phalen and James I. Kendrick (Cleveland Clinic Foundation, Cleveland, Ohio), J. AM. M. Ass., 164: 524-530, June 1, 1957

The median nerve as it passes into the hand lies just between the transverse carpal ligament and the flexor tendons of the fingers. Any change in the contour of the tunnel or in the volume of its contents leads to pressure on the median nerve resulting in sensory and motor deficits

in the area of innervation. This report is concerned with gradual spontaneous compression neuropathy without history of injury or disease.

Findings are reported on 71 patients, 54 women and 17 men, ranging from 24 to 77 years of age. Thirty-nine had bilateral symptoms, and of the remaining 32 the usual involvement was in the dominant hand.

Diagnosis of carpal tunnel syndrome should be considered when there is hypesthesia in the median area of distribution to the hand and isolated weakness or paralysis of thenar muscles. Strenuous use of the hand seems to aggravate the pain and numbness. Presence of Tinel's sign, a positive wrist flexion test, and thenar atrophy are strongly indicative of compression neuropathy. There may be an obvious thickening or swelling over the volar aspect of the forearm proximal to the wrist joint.

Differential diagnosis must be made from lesions of the central nervous system, irritation of the fifth through the eighth cervical roots or peripheral nerve injuries, especially lesions of the brachial plexus. Similar symptoms in the hands occur as part of generalized polyneuritis or diabetic neuropathy.

Conclusions from these 71 patients are that a thickening of the flexor synovialis witihin the carpal tunnel is the major causative factor. The authors believe this is rheumatic in origin, thereby explaining its more frequent occurrence in women. Injections of hydrocortisone have led to relief in some cases.

Section of the transverse carpal ligament results in immediate decompression and usually rapid relief of symptoms. If paralysis of thenar muscles has been of short duration there is usually full recovery of bulk and strength.

Asthmatic Wheezing

E. Dekker and J. Groen (Second Medical Service of the Wilhelmina-Gasthuis, Amsterdam), LANCET, LOND., 6978: 1064-1068, May 25, 1957

It has long been assumed that the typical wheezing during the expiratory phase of the asthmatic attack is produced by a stenosis of the smaller bronchi and bronchioli. Opinions differ concerning the cause of this stenosis.

Dekker and Groen present evidence for another explanation of asthmatic wheezing; namely, that it may be produced, at least partly, by a narrowing of the trachea and larger bronchi. Asthmatic patients and normal persons can learn to wheeze at will by imitating the typical asthmatic expiration. This voluntarily produced wheezing is indistinguishable from the spontaneous wheezing during asthmatic attacks. X-ray studies during voluntary wheezing and during spontaneous asthmatic attacks reveal considerable narrowing of the cervical and thoracic trachea and the main bronchi. In human lungs (obtained at necropsy), which were made to breathe under different pressures in a closed jar, an expiratory pressure of 1 cm. Hg or more produced a considerable stenosis by a prolapse of the membranaceous part of the trachea and main bronchi into the lumen. It is postulated that a similar passive compression of the larger air passages is mediated by the positive pressure created in the thorax by the powerful contraction of the abdominal, thoracic, and cervical musculature during the typical "asthmatic" expiration. In the trachea and bronchi this compression causes the membranaceous part of the wall of these structures to be pressed into the lumen and is an important factor in the production of the expiratory wheezing. Pursed lip breathing and positive pressure breathing may momentarily stop the wheeze in asthmatic patients by increasing the intraluminal air pressure, thus supporting the walls. The importance of these observations is noted relative to understanding the mechanisms by which asthmatic attacks are brought about and by which they can disappear with breathing exercises.

The State of Development of Newborn African Children

Marcelle Geber and R. F. A. Dean (Mulago Hospital, Kampala, Uganda), LANCET, LOND., 272: 1216-1219, June 15, 1957

Neurological studies on 107 normal newborn African children were conducted by the authors. Information obtained from these studies revealed that the African child is born at a more advanced stage of development than is the normal European child.

The technic of detailed neurological examination utilized on the African children was that evolved by André Thomas for European children. It consisted of an examination of the child's attitude when placed in varying body positions, and tests of a number of primitive reflexes. The examination was described in some detail by the authors.

The precocity of the African newborn was evidenced particularly by a lesser degree of flexion, a remarkable control of the head, and by frequent absence of primitive reflex activity. When placed in a sitting position, 90 of the 107 newborn children could prevent their heads from falling back and could maintain the trunk in an erect position. Results of the entire examination were so consistent and the degree of advance so great that the authors felt the results were quite significant. Much of the activity of the newborn Africans corresponds to an age of 4 to 6 weeks or more in the European child. The authors are continuing their research in this field, and stated that the results of tests on the newborns were consistent with Gessel tests which have previously revealed the precocity of African children more than 1 month old.

Cardiovascular Disturbances in Poliomyelitis

Louis Weinstein (Boston University School of Medicine, Boston), CIRCULATION, 15: 735-755, May 1957

The purpose of this paper is to review the cardiovascular abnormalities that have been observed in poliomyelitis, to discuss the mechanisms to which they are thought to be attributable, to point out their importance in the clinical course of the disease, and to suggest lines for further investigation.

A review of the cardiovascular phenomena that may occur in poliomyelitis clearly reveals that changes in the heart, alterations in hemodynamics, hypertension, shock and blood vessel abnormalities, while of variable incidence and severity, may alter the course of the infection unfavorably or even cause death.

Myocarditis with anatomic, clinical, and electrocardiographic changes is a well-documented phenomenon in poliomyelitis. Endocarditis and pericarditis may also occur. Hypertension may be transient or persistent; when of short duration it usually reflects hypoxia, but when prolonged is probably due to hypothalamic involvement. Pulmonary edema and circulatory collapse are

serious complications and are associated with a poor prognosis for survival. They appear most frequently in the bulbar or bulbospinal type of the disease. The exact manner of their development is still obscure.

Alterations in hemodynamics occur when a poliomyelitis patient is given artificial respiration. If normal compensatory mechanisms are inactive, the application of positive pressure to the airway or negative pressure around the body may result in severe hypotension, shock, and death. Although less common than in elderly patients, phlebothrombosis or thrombophlebitis of the extremities is a constant threat in young persons. Angiospasm, while not clearly demonstrable in paralyzed extremities in the early phase of the disease, is a common feature of the late stages and is probably responsible for color and temperature changes as well as retardation of bone growth.

The author emphasizes strongly the need for long term follow-up studies with attention focused on the cardiovascular system. The increased incidence of this infection in adults in the past 20 years points to the necessity for the internist to acquire and cultivate a serious interest in this disease. The presence of cardiovascular complications, which may be of much greater significance in determining the course of the disease than mere paralysis of an arm or leg, establishes the need for interest by the cardiologist. Only when all of the phenomena that occur in poliomyelitis are clearly understood and properly related to each other will it become possible to increase the chance for survival and to decrease the impact of the late effects of poliomyelitis.

Total Replacement of the Knee Joint By a Prosthesis

W. Russell MacAusland (Boston), SURG. GYN. OBST., 104: 579-583, May 1957

A new approach to the problem of mobilization of the knee by means of prosthetic replacement is described and discussed.

The procedure was used on a 45 year old woman who had a history of polyarthritis of many years' duration and was completely disabled. All joints of the upper extremity were stiff and painful; in the lower extremities the hip joints had fair range of motion and the knees were stiff in flexion deformity of approximately 50 degrees. A replacement operation was performed on the right elbow on Dec. 4, 1953, and on the left elbow nearly one year later. On Jan. 6, 1956, the entire right knee was replaced by a prosthesis.

Evaluation of the operations found at a recent examination showed that no pain is being experienced in any of the restored joints and that there is sufficient range of motion at the elbows to permit the patient to feed herself. The patient can easily flex the knee joint to 80 degrees from the extended position and voluntarily extend the leg again to 180 degrees. She is more comfortable in a sitting position, can stand on the extremity with complete stability, but the drop foot prevents the heel from touching the floor. Walking is impossible because of an achilles tendon contracture and the stiff knee on the opposite side. The patient feels she would be able to walk if the knee were mobilized and the achilles tendon contracture corrected.

The prosthesis used in this procedure is made of vitallium, has a femoral and a tibial component, each of which is equipped with a stem for insertion into the medullary cavity. The parts lock together by means of a rod and bolt to form a hinge-joint. This joint limits extension to 180 degrees and permits flexion to 10 degrees beyond the right angle. Stability is provided by means of flanges which are perforated to allow for bone growth and by means of teeth which bite firmly into the cortical shell. Preoperatively, the patient is instructed in contraction exercises of the quadriceps and on the third day after the operation gentle contraction exercises of the quadriceps are begun. Power of the extensor muscle is gradually developed by exercises and active movement of the joint.

Mobilization of an ankylosed knee joint is a far more exacting problem than the restoration of motion in other joints because, to be successful, it must have weight-bearing capacity. Requirements of the operation are: (1) the joint must be stable, and (2) a functional degree of painless motion must be obtained.

The uncertainty of the end-results of the fascial-flap arthroplasty of the knee joint and the disappointing attempts to use other substances are discussed. No evaluation of replacement surgery at the knee joint is attempted as it is still in a pioneering stage. In the case described, however, the outcome is promising. The procedure meets the requirements of a mobilizing operation on the knee and there is little doubt that investigation into this method of mobilizing the knee joint will be continued.

Our Abstractors for October

We wish to express appreciation for the assistance of the following Association members in the preparation of the abstracts in this issue:

Rachel Adams J. Cuthbertson
Joan Bissonnette Ethel Coeling
Dorothy Briggs Margot Trimble
Mary K. Wood

Book Reviews . . . . .

The Management of Fractures, Dislocations and Sprains. *By John Albert Key, Clinical Professor of Orthopaedic Surgery, Washington University School of Medicine. And H. Earle Conwell, Associate Professor of Orthopaedic Surgery, University of Alabama School of Medicine. Ed. 6. Cloth; price $20.00. Pp. 1,168; illus. C. V. Mosby Co., St. Louis, 1956.*

This is the sixth edition of a nationally and internationally known and accepted textbook on fractures, dislocations, and sprains. Both Dr. Key and Dr. Conwell write with authority based on many years of personal experience, and have included only treatment which they have found reliable and practicable. They realize that many fractures will necessarily have to be treated by the general practitioner, who must be prepared to give immediate care to injuries that occur as the result of mechanization in industry, on the farm, and in transportation. He must recognize the possibility of complications and deformities resulting from fractures. To protect himself he must secure the opinion and aid of specialists. Most fractures are due to accidents and may present medicolegal problems.

Fractures frequently are associated with injury to the soft tissue and with open wounds. This textbook considers these possibilities and describes the choice of method of treatment for the fractures in the various areas of the body. Where an open reduction and use of medullary pin is the procedure of choice, they do not hesitate to recommend it.

The book is divided into two

parts. The first deals with the principles and general aspects of fractures and the second with the diagnosis and treatment of specific injuries. A description of the various types of special equipment is given. The principles of healing of fractures are discussed. The problem of nonunion is discussed. Pathological fractures are also considered.

This is a very complete book, well presented. It has an excellent format and is well illustrated with clear photographs and reproductions of roentgenograms.

There is a short chapter on physical therapy in fractures emphasizing that the therapeutic value of the method is largely dependent upon the skill of the administrator.

A Manual of Physical Education Activities *by Hollis F. Fait, University of Connecticut; John H. Shaw, Syracuse University; Grace I. Fox, Florida State University; and Cecil B. Hollingsworth, University of California at Los Angeles. Cloth; price $4.00. Pp. 310; illus. W. B. Saunders Company, Philadelphia, Pa., 1956.*

The authors of *A Manual of Physical Education Activities* are authorities in physical education from different sections of the United States. Although this manual is written primarily for use in the required physical education courses in a college curriculum, various phases of it may be used by a physical therapist.

The authors' purpose is to introduce sports which are included in a required physical education program so that the student may participate in the activity in school and in future years as a player or as a spectator. To this end they have included an extensive list of individual and team sports.

Each activity is discussed by the following outline: a concise history; description of the activity; fundamental technics, skills, and terms used; helpful hints on strategy; care of equipment; safety; game courtesies; and a practice guide. A battery of true-false tests on each activity is found in the appendix.

Of particular interest to the physical therapist is the chapter on "Fundamental Skills of Movement." Hints are given in balancing the body (standing, sitting, and walking), in lifting and carrying objects, and in pushing and pulling. The chapter discusses skills in throwing and catching a ball, in breaking a fall, and in learning to relax. It presents the most efficient and graceful way in which to perform daily movements as well as the skills which are basic to sports and games. Another chapter of interest to the therapist discusses how to maintain the efficiency of the body. It is concerned with personal health and ways to maintain it.

Some of the sports, particularly the individual sports such as archery, bowling, fly and bait casting, golf, and swimming may be taught to the handicapped person. The chapters on dance, recreational games (deck tennis, loop tennis, and shuffleboard), and the game of table tennis may be useful in helping the patient to adjust socially. Some of the team sports could be adapted to a handicapped groups' needs. A physical therapist could use some of the technics in his program not only to develop the injured part but also as a means of exercise for all parts of the body.

Every physical education teacher will want this manual in his library. A physical therapist who is interested in a recreational program with handicapped people, or in applying some of the technics of physical education activities to his program will find this manual of value as it is written in a clear and well organized style. Each activity is well illustrated and has an adequate bibliography.

Medical Physiology. *Edited by Philip Bard, Professor of Physiology, School of Medicine of the Johns Hopkins University. Ed. 10. Cloth; price $14.00. Pp. illus. C. V. Mosby Company, St. Louis, 1956.*

This is the tenth edition of a physiology textbook that originally bore the name of J. J. R. Macleod. Since Dr. Macleod's death, which was shortly after the publication of the seventh edition, the subsequent editions, i.e., the eighth and the ninth, have carried his name although the style and content have changed substantially. The preface clearly states that this current edition, newly titled *Medical Physiology*, is so far removed from the style of the earlier volumes of Professor Macleod's that the continuance of his name seemed unwise.

Although the book is the average 7 by 10 inch size, it is a heavy volume having 1,400 pages of small, faint type. There is the usual number of graphs, tables, and illustrations as needed to clarify the presentation of data. The arrangement of the reference list at the end of the book is a particularly convenient feature, with its 97 pages of references listed according to chapters and page numbers. Those who are interested in reading the original papers in a field of specialization would find this tabulated-style reference list a great asset.

Philip Bard, editor of *Medical Physiology*, has written several sections of the text, although much of the information in this tenth edition is presented by his 13 collaborators. Their objectives are to select the material that best elucidates the subject under consideration and to present it in terms of the experimental procedures and the data which substantiate it. The material is presented in nine parts and covers the areas of physiology currently considered in most texts of its size; namely, circulation, respiration, alimentary tract, metabolism and nutrition, body fluids, endocrine glands, neuromuscular system, central nervous system, and the special senses. The emphasis is on those portions of physiology that are the concern of the medical student, medical scientist, and practicing physician.

It is somewhat unique to find a medical physiology text which frequently refers to the systems and the cell functions of lower forms of animal life. The phylogenetic and embryonic approaches add to the readability of this book; however, on the whole, the style has been surpassed by other authors treating similar subjects. Others have been able to present the facts and theories with more simplicity and lucidity while maintaining the caliber.

This is a complete and detailed volume with a satisfying general plan. Some sections are particularly well organized and some relatively new areas of investigation have been treated in surprising detail; e.g., Chapter 74, "The Hypothalamus." The section on the neural control of postural coordination and locomotion will be of special value to practicing physical therapists because of the clinical data presented on cerebellar lesions in man.

Three hundred and fifty pages are devoted to the neuromuscular system and the central nervous system, which is a proportionally large amount. This presentation is as concise as possible considering the completeness of the entire book, and the theories cited and studies reviewed are those of investigators known to have contributed the most valuable work in this area. The

chapters on synaptic transmission and the reflex activity of the nervous system will be particularly enlightening to those in physical therapy who wish to delve into some of the theoretical bases for contemporary neuromuscular trends in the field.

On the whole this book will be of comparative interest to those intent on pursuing physiological information in detail and therefore can be considered a helpful reference book.

Interprofessional Cooperation for the Improvement of Our Health and Welfare.

Papers delivered at a conference on Health and Rehabilitation; third in a series of Anniversary Celebrations. Paper; price-gratis to schools. Pp. 125. Marquette University Press. Milwaukee, Wis., 1956.

A glance at the titles of the chapters may cause some apprehension that here are more dusty meanderings down a dull billboarded road—"Medical Teamwork in the Modern Hospital," "The Challenge of Interprofessional Cooperation to Medical Education," "Interprofessional Cooperation and Patient Rehabilitation," "The Medical Profession and Its Cooperative Relationship with Special Interest Groups"... However, a second glance, this time at the names of the authors, and this apprehension is dispelled. These authors are dynamic drivers. These are articulate men of action. Their words are ejaculated down superhighways and the material is informative and thought provoking. Note the following: Robert A. More, M.D., vice-chancellor, Schools of the Health Professions, University of Pittsburgh; Robin C. Buerki, M.D., Executive Director of the Henry Ford Hospital, Detroit, Michigan; Stanley E. Dorst, M.D., Dean of the College of Medicine, University of Cincinnati; Howard A. Rusk, M.D., Chairman of Physical Medicine and Rehabilitation, New York University; Maynard K. Hine, D.D.S., Dean of the School of Dentistry, Indiana University; Herman G. Weiskotten, M.D., Dean Emeritus of Syracuse University College of Medicine; David E. Price, M.D., Assistant Surgeon General, Public Health Service; Joseph C. Hinsey, M.D., Director of New York Hospital, Cornell Medical Center.

Marquette University held a conference on Health and Rehabilitation as part of the 75th Anniversary Celebrations. John S. Hirschboeck, M.D., Dean of the School of Medicine, Marquette University, was chairman of the faculty committee which planned this conference. The papers included in this book were the formal addresses. Each address then became the subject of an informal discussion among the speakers and invited participants. The reader may regret that these discussions were not included. Dr. Hirschboeck states that in these discussions the enthusiasm with which relationships were discovered and developed showed that interprofessional communication through conference is a device which can be used profitably.

For the physical therapist whose ideas are stooped from bending over everyday technics, this will be a refreshing pause to stand and stretch and consider a broader viewpoint of Interprofessional Cooperation for the Improvement of Our Health and Welfare.

Studies of the Aged and Aging. Selected Documents, 11 Volumes. *Compiled by the Staff of the Committee on Labor and Public Welfare, United States Senate. Paper; free. Committee on Labor and Public Welfare, United States Senate, Washington, D.C. 1956.* Vol. 1, Federal and State Activities, *309 pp.* Vol. 2, Health and Health Services, *232 pp.* Vol. 3, Income and Income Maintenance, *231 pp.* Vol. 4, Employment, *48 pp.* Vol. 5, Public and Private Services for Older People. Vol. 6, Care of the Aging by the Veterans Administration, *92 pp.* Vol. 7, Guide to Significant Publications, *242 pp.* Vol. 8, Current Population Data and Trends. Vol. 9, Research, Demonstration and Training, *157 pp.* Vol. 10, Surveys of State and Local Projects, *144 pp.* Vol. 11, Fact Book on Aging, *77 pp.*, 1956.

The Staff of the Committee on Labor and Public Welfare of the U.S. Senate in 1956 compiled and published a series of reprints concerned with studies of the aged and aging. There are 11 separate volumes and 1 supplement in this series, to date.

These volumes bring together abstracted proceedings and reports from all the various agencies, organizations, universities and other groups in the United States who have been studying, planning, making recommendations or establishing programs relating to the needs of the aging and aged up to 1956. There are selected articles by leading authorities in the field, a vast amount of current statistical data with charts and graphs, a bibliography, and names and addresses of officials in many groups for further reference. The volumes are well indexed.

This material was collected as source material for the use of the Senate Committee assigned to analyze and evaluate the legislative needs of the aging population in the United States. There has been a voluminous amount of study, reporting, and activity in this field during the last decade. This is the first time that reports of all these activities have been brought together in one place. Thus, it makes for an excellent reference resource for persons who are concerned with any type of geriatric or gerontological problem.

Volume I particularly includes the studies, recommendations and reports of the federal agencies, starting with (first) National Conference on Aging which met in Washington in 1950; reports of the activities of the various state commissions on aging, the Commission on Chronic Illness, and various university studies and conference reports.

Health and Health Services (Volume II) is a report on the latest studies and statistics on health care, hospital care, mental and chronic illness; duration of various types of illness, days in bed at home or in various kinds of institutions, and the cost. There is an excellent discussion of insurance plans. Volume III discusses income and income maintenance. There are numerous charts and graphs which are most informative. So too are the charts in Volume IV and a supplement to Volume IV discussing employment and job opportunities for the aging. Public and Private Services for Older People (Volume V) is concerned with rehabilitation, housing and living arrangements, education, and community services. Volume VI describes care of the aging by the Veterans Administration. Volume VII, A Guide to Significant Publications, abstracts what the Staff considered the most important publications from all types of professional journals, popular magazines, books, and conference reports chosen from the thousands of articles that have been published on problems of aging in the last ten years. Volume VIII deals with current population data and trends. Volume IX describes research, demonstration and training projects, methods of research, and needs for research and further study. There is a survey of state and local projects (Volume X). This lists all the projects, agencies and groups

concerned with problems of aging in each state and names committee members and their addresses. The final publication (Volume XI) summarizes all the basic information currently available on the major questions affecting the lives of older people in America. The charts and appendix tables cover population trends, movements, marital status, population statistics relating to men and women; the labor force; income and other resources, including houses; health and disability; life expectancy; chronic illness; institutions; financial costs of illness; and a survey of health and hospital insurance.

All these volumes are of equal importance, depending upon the subject or problem of aging under study. Volume II is especially recommended for reading by physical therapists whether or not they are currently concerned with the general over-all problems of aging. The discussion and description of all the various plans for health insurance deserves study, particularly the noncancellable policies for what is often called "catastrophic" insurance, since the premiums on these are less, the younger the person is when he purchases such insurance. The same volume also contains interesting information and statistics, such as in the incidence, age, sex, distribution and duration of various types of illness and disability. Patients in many of these categories are frequently referred for physical and occupational therapy.

The 15 recommendations of the Commission on Chronic Illness on the Care of the Long-Term Patient in Volume II summarize many recommendations from other studies. Of these, the first three state that: "Care of the chronically ill is inseparable from general medical care. . . . ; Care and prevention are inseparable. . . . ; Rehabilitation is an innate element of adequate care and properly begins with diagnosis."

Learning Colors. *By Naomi Hooker Chamberlain, M.A., Western Reserve University, Cleveland, Ohio. And Olivia J. Hooker, M.A., Teachers College Columbia University, New York. Paper; price $1.50. Pp. 22; illus. by William Henry Wortham, Eastman Kodak Co., Rochester, N. Y. Olnay Books, Rochester, N. Y., 1956.*

This book is the first of a series of books planned for severely retarded and handicapped children. It is a paper-bound, mimeographed book designed for use with a group or with an individual child. The authors have written the book for the layman as well as the professional person. In the front of the book are "Suggestions for Using *Learning Colors*," "Supplementary Color Learning Activities," and a chart to record the pupils' responses.

The book itself is a series of duplicate colored sheets of construction paper in the eight basic colors. The first page is a picture of a door and the second page is the picture of an appropriate common object of that color; (i.e., red door—an apple). The child, through a game activity, opens the door (turns the page) to find out what is behind it and then associates the object with the color and color word.

The simplified presentation of the material indicates that the authors have had a wide experience in teaching such children and on the basis of this experience are trying to help others in similar situations. *Learning Colors* can be used by the motor handicapped as well as the nonmotor handicapped child, as it involves only simple eye-hand coordination. Parents, teachers, occupational therapists, and the child himself will find this book interesting and useful.

A Speech Readiness Guide: for Parents of Severely Retarded Children. *By Naomi Hooker Chamberlain, B.S., Ohio State University; M.A. in Speech and Hearing, Western Reserve University, Cleveland, Ohio. Olivia J. Hooker, B.S., Ohio State University, and Winifred Hull Wagner, B.S., St. Lawrence University, New York. Paper; price $1.50. Pp. 72. Olnay Books, Rochester, N. Y., 1956.*

This is the second in a series of mimeographed booklets prepared by the authors for use with the retarded child. In the introduction, Miss Chamberlain explains that although the book is written for parents, teachers and volunteers will find the activities easy to follow in a group situation. She also explains that the lessons have been developed from experience with retarded children and that they are intended only as a guide to demonstrate the various aspects of speech readiness.

"Suggestions for Using this Outline" is followed by a series of 11 lesson plans, each dealing with a different area of speech readiness. The areas discussed are "Identifying the Speech Organs," "Imitating Movements," "Speech Exercises," "Ear Training," "Breath Control," "Language Motivation," "Vocalizations," "Vocabulary Experiences," "Learning a Vowel," "Combining Vowel and Consonant," and "Other Speech Activities to Increase the Child's Vocabulary." Each lesson plan states the aim, equipment needed, directions, and an action game to reinforce the experience.

The materials needed are common household articles or items which are inexpensive and easily obtained. The directions are written for the layman and are easily followed.

Any person working with speech or mentally handicapped children will profit from reading this book as it gives basic principles of speech training which can be adapted to his specialized field in treating the child.

Learning Forms and Sizes. *By Naomi Hooker Chamberlain, M.A., Western Reserve University, Cleveland, Ohio. And Olivia J. Hooker, M.A., Teachers College Columbia University; Clinical Psychologist, New York State Department of Mental Hygiene. Paper; price $1.50. Pp. 110; illus. by William Henry Wortham, Eastman Kodak Co., Rochester, N. Y. Olnay Books, Rochester, N. Y., 1956.*

Book III of this series resembles Book I in that it is prepared for actual use by and with the child, whereas Book II is for use by the instructor only. This book too is written from experience to illustrate material which has proved functional, but it goes on to challenge the reader to develop his own methods and materials.

Part I deals with "Square and Rectangular Objects," Part II with "Round Objects," and Part III with "Triangular Objects." In the introduction, the authors state that *Learning Forms and Sizes* has been carefully arranged to include the principles of "repetition, concrete familiar objects, reduced distraction, and tasks within the possible scope of the child's limited ability." Following the introduction are a "Chart (for Pretest)," "Suggestions for Using this Book," and "Aims."

Within each section is a group of common objects of the given shape. Each object is then presented on individual pages in a big, little, and middle-sized form. The fourth page of the series presents all three sizes

for comparison. The fifth page shows the big size in outline form for tracing purposes.

Therapists of all fields will find this book useful in their work as it demonstrates methods of recognition, discrimination, eye hand coordination, and vocabulary development which are fundamental in the training of the mentally retarded and/or the educationally retarded.

The reviews here published have been prepared by competent authorities and do not represent the opinions of the American Physical Therapy Association.

Our Book Reviewers for October

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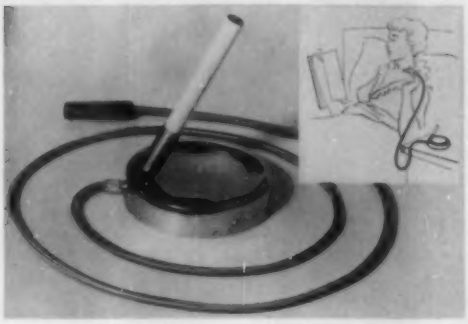
What's New . . . . . .

100. For Bedridden Smokers



"Smoker's Robot" is a chrome-plated cigarette holder for use by handicapped and bedridden smokers. With this ingenious holder, cigarette ashes and sparks fall harmlessly into the attached tray while the cigarette is held safely and firmly in the holder. The tube, which is 38 inches long, enables the smoker to enjoy his cigarette with no worries about burn damage to furniture, clothing, or blankets—and most important of all—no danger of the tragically serious fires which have so often resulted from careless smoking in bed. Fascole Corporation.

101. Sit-a-Bath

Sit-a-Bath, the manufacturer states, may be installed in any lavatory and needs no special piping or plumbing. It is shatterproof, heatproof "Styrene" and is easily portable. Sit-a-Bath permits the patient who cannot use a tub to be bathed with running water. The foot-support tray, water collector, may be elevated and drained. National Sales Co.

For more information on items write to The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

102. Utility Tray

Utility Tray is designed for patients with severe upper extremity involvement. Fits any make or model wheel chair. Height adjusts and tilts to required angle for reading, writing, eating, games, and finger therapy. Convenient shelf for storing reading or writing materials, etc. Top of tray scratchproof, stainproof, heavy-gauge plastic, easily raised or tilted from 3 to 6 inches. Cleaned with damp cloth or sponge. W. R. Hausmann Woodwork, Inc.

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COORDINATOR OF PHYSICAL AND OCCUPATIONAL THERAPY: To direct physical and occupational therapy staff in State crippled children's program. Car provided, 4 weeks' vacation, under Merit System, retirement benefits. Minimum of 3 years' experience, preferably including 1 year supervisory experience. Salary range $5,460-$6,420. Write to Dr. Jack Sabloff, Director, Division of Crippled Children's Services, Dover, Delaware.

PHYSICAL THERAPISTS—Grasslands Hospital. Active Physical Medicine and Rehabilitation Service under expert medical direction. Must be eligible for registration in New York State. Starting salary $3,820, increments to $4,570, excellent personnel policies. Contact Personnel Supervisor, Grasslands Hospital, Valhalla, Westchester County, N. Y. LYric 2-8500.

REGISTERED PHYSICAL THERAPIST: Third position open for graduate of approved physical therapy school, male or female. With one year full time paid experience, salary $4,980 to $6,060; without experience, $4,740 to $5,496. Excellent State Civil Service employee benefits. Write Superintendent, School for Cerebral Palsied Children, Southern Calif., 832 West Mariposa Street, Altadena, Calif.

PHYSICAL THERAPISTS needed to staff progressive rehabilitation center. California registration or eligibility for registration required. Salary range $351-$439. Excellent retirement system, liberal vacation and sick leave privileges. Write San Mateo County Civil Service Commission, Court House, Redwood City, California.

NEEDED IMMEDIATELY: CHIEF physical therapist and 1 STAFF therapist for well equipped and established department. Interesting and challenging positions. Excellent medical supervision. Both inpatient and outpatient treatment. Salary commensurate with experience. Liberal personnel policies. Write or phone Personnel Director, Butterworth Hospital, Grand Rapids 3, Michigan.

QUALIFIED physical therapist for outpatient center for cerebral palsied children. Well equipped center established 1950 supported by Chest. Program also includes nursery school and class for mentally retarded children. Pleasant surroundings, competent and congenial staff, opportunity to use initiative. Four-week summer vacation, generous Christmas holiday, social security, sick leave, annual increments. Starting salary $3,800 minimum, more if experienced. Interview arranged at our expense. Write Miss Virginia Pettit, Executive Director, United Cerebral Palsy, 3601 Victory Parkway, Cincinnati 29, Ohio.

QUALIFIED PHYSICAL THERAPIST (female) for staff position in V.N.A. Generalized P.T. service to a growing community of 200,000. At least one year paid experience in a hospital or clinic under supervision of qualified physical therapist. Minimum salary $3,800 depending on qualifications and experience. Liberal personnel policies include 30-day vacation. Apply Director, Visiting Nurse Association, 20 Maple St., Springfield, Mass.

IMMEDIATE PLACEMENT for physical therapist: 128-bed, fully accredited general hospital; 40-hour week, paid vacation and sick leave, laundry of uniforms, 7 paid holidays. Salary open. Apply: Director, Charlotte Hungerford Hospital, Torrington, Conn.

QUALIFIED P.T. for immediate placement in children's (birth to 18 years) outpatient clinic. Modern building, pool, well equipped department. Personnel policies excellent. Salary open. Apply Gladdes B. Neff, Director, Tichenor Orthopedic Clinic, Long Beach, Calif.

An ADDITIONAL THERAPIST needed to staff progressive rehabilitation center. Liberal salary with merit raises. Usual benefits plus fully paid life insurance and hospitalization plan, also a paid retirement and pension insurance. Write: Personnel Director, Oak Ridge Hospital, 725 Fremont Avenue, North, Minneapolis 11, Minnesota.

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Physical Therapist, STAFF POSITION, male or female. Salary commensurate with experience. Five-day week, liberal vacation, holiday and sick leave. Social Security. Apply Personnel Director, Crotched Mountain Rehabilitation Center for Children, Greenfield, N. H.

WANTED: Staff physical therapist, MALE or FEMALE. New department completely equipped. Salary open. Forty-hour week, vacation, sick leave. Wide variety of cases with both in- and outpatients treated. Apply: Personnel Office, St. John's Hospital, 1235 E. Cherokee, Springfield, Mo.

PHYSICAL THERAPIST: Wanted for active, well equipped department in 118-bed hospital with expansion program underway. Pleasant surroundings in north suburb of Chicago; modern housing. Recreational facilities and cultural activities available. Good salary, 40-hour week, varied cases treated. Apply to Personnel Director, Highland Park Hospital, 718 Glenview Avenue, Highland Park, Illinois.

WANTED: Qualified PHYSICAL THERAPIST for specialized hospital; children, contagious and psychiatric. Salary range $4,200—$4,800. Room, board and laundry, also Blue Cross and Physicians' Service coverage at no cost. Forty-hr. week, paid vacation; 9 paid holidays; 3 weeks' sick leave with pay. Apply: Dr. Hiliary J. Connor, Supt. Charles V. Chapin Hospital, Providence, R. I.

PHYSICAL THERAPIST: Staff position. Opportunity for varied experience; 650-bed general hospital, near center of cultural and educational activities. Vacation, sick leave and social security benefits. Apply Personnel Director, Harper Hospital, Detroit 1, Michigan.

METHODIST HOSPITAL OF DALLAS, TEXAS, needs an experienced female therapist for an active, well equipped department in a 330-bed general hospital with expansion program underway. Good salary, good personnel policies, 40-hour week. Attractive employee benefits. Write: Mrs. Betty Basinger, Chief Physical Therapist.

PHYSICAL THERAPIST, qualified, for 334-bed general hospital. Five-day, 40-hour week, paid vacation, sick leave, regular salary increases. Convenient location, excellent working conditions. Apply Personnel Department, Lakewood Hospital, Lakewood 7, Ohio.

CALIFORNIA offers attractive opportunities to GRADUATES OF APPROVED PHYSICAL THERAPY SCHOOLS. Positions open in State Hospitals, Veterans Home, and special schools for cerebral palsied children. Require U. S. citizenship and registration with California Medical Board. Excellent employee benefits and retirement annuities. No experience required to start at $395 a month, raise to $415 after 6 months; annual merit increases and promotional opportunities to $530. Write State Personnel Board, Box 71, 801 Capitol Avenue, Sacramento, California.

Staff PHYSICAL THERAPIST for children's outpatient clinic. Five-day week, liberal personnel policies. Salary $4,100-$5,100. Write Ruth M. Anderson, Supervisor of Physical Therapy, Detroit Orthopaedic Clinic, Detroit 2, Michigan.

WANTED: ASSISTANT THERAPIST. Good opportunity for recent graduate, either male or female. Fully equipped department. Two weeks' vacation, holidays, sick leave. Good starting salary with regular increments. Write Raymond T. McHugh, Administrator, Memorial Hospital at Exeter, Exeter, California.

WANTED: Physical therapist, female, 540-bed general hospital. For information contact Mr. Wayne E. Kirker, Chief Physical Therapist, Harrisburg Polyclinic Hospital, Harrisburg, Pa.

PHYSICAL THERAPIST (Cerebral Palsy) Immediate openings in San Francisco Bay Area Health Department.

Salary range: $394-$484

Registration: Possession of the legal requirements for the practice of physical therapy in California as determined by the California Board of Medical Examiners.

Education: Graduation from a recognized school of physical therapy.

cal therapy following graduation from a recognized school of physical therapy, preferably with some experience working with cerebral palsy children.

Experience: One year of supervised experience in physi-

Apply: James C. Malcolm, M.D., M.P.H., Health Officer
Alameda County Health Department, City Hall
14th and Washington Streets, Oakland, California

(continued on next page)

Classified WANT-ADS

RATES

The rate per insertion is $1.00 per line. Typewrite your advertisement carefully and count 50 characters and spaces per line.

ALL WANT-ADS MUST BE PAID FOR IN ADVANCE. Make checks or money orders payable to the American Physical Therapy Association.

Closing date for copy and cancellations is two months preceding publication date.

Institutions or physical therapists who do not wish their identity known may arrange for Blind Ad Code No. All such want-ads must include the following which will be counted as 2 lines:

Address replies to ..... care of The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

IMPORTANT

It is understood and agreed that the publisher shall have the right to reject or change the wording of any advertisement which in the opinion of the Editorial Board shall not be in agreement with the ethical standing of this publication.

Classified WANT-ADS

PHYSICAL THERAPIST: General physical therapy for 398-bed, JCAH fully accredited, acute, general hospital. Expansion program including new rehabilitation unit underway. Liberal personnel policies. Apply to Velma E. Flaningam, Chief Therapist, Mount Sinai Hospital of Cleveland, 1800 E. 105th St., Cleveland, Ohio.

PHYSICAL THERAPIST: State crippled children's program. Full team approach. Car provided, 4 weeks' vacation, under Merit System. Retirement benefits. Salary range: PT-I, $4,320-$5,040; PT-II, $4,680-$5,580. Write to Dr. Jack Sabloff, Director, Division of Crippled Children's Services, Dover, Delaware.

Physical therapist for REHABILITATION CENTER in industrial area. Good starting salary, regular increments, 40-hr. wk., 5 wk.-vac., S. S., paid hospitalization. Apply Christine K. Kline, P.T., Executive Director, 209 W. Woodland, Youngstown, Ohio.

Female physical therapist for STAFF POSITION in outpatient rehabilitation clinic. Liberal benefits, air-conditioned clinic, modern equipment and under direction of a physiatrist. Recent graduate acceptable. Write: Ward A. Merrell, Administrator, Rehabilitation Services, Inc., 200 Court Street, Binghamton, New York.

PHYSICAL THERAPIST

Large New England insurance company has position open for a female physical therapist.

We require a minimum of two years' experience; state license or its equivalent.

Salary according to background and experience. Minimum of $4,000 per year.

Write stating qualifications to:
P.O. Box 862, Hartford 15, Connecticut.

PHYSICAL THERAPIST: Cerebral palsy outpatient treatment center includes all therapies, nursery, kindergarten and public school classes. Five-day week, 7 hours daily. Personnel practices in effect. Apply Dorothy Richards, C. P. of Essex and West Hudson, 7 Sanford Avenue, Belleville, N. J.

Experienced physical therapists with ability to develop physical therapy departments in small community hospitals located in coal mining area of Kentucky, West Virginia, and Virginia. New hospitals, modern equipment, high standards of medical care. Entrance salaries for experienced staff $5340 to $6420 a year, depending on qualifications. ALSO, a few openings for recent graduates of approved schools for positions under supervision of experienced physical therapist. Starting salary $4440. Personnel policies include annual increments, 4 weeks vacation, 5-day work week. For application forms and further information, write:

MINERS MEMORIAL HOSPITAL ASSOCIATION
Attention: Mr. Philip J. Olin,
Associate Administrator for Personnel
Box 61, Williamson, West Virginia

IOWA METHODIST HOSPITAL, DES MOINES, IOWA, needs registered physical therapist. Hospital has 400 beds, including 100-bed Raymond Blank Memorial Hospital for Children. Plans under way for construction of 120-bed chronic disease unit. Post-polio cases, in- and outpatient work. Competent professional staff and assistants, excellent working relationships. Apply A. D. Damiani, Personnel Director.

REGISTERED STAFF physical therapist for 600-bed private teaching hospital with 30-bed Rehabilitation Center. Both inpatients and outpatients. Beginning salary $325 per month with regular increments and vacation pay. Write Harold N. Neu, M.D., Director, Rehabilitation Center, Creighton Memorial St. Joseph's Hospital, Omaha, Nebraska.

Positions available for 1 ASSISTANT CHIEF and 1 STAFF therapist; 300-bed hospital with outpatient service. Located in fine sports area, only 25 miles from Detroit. Modern equipment, substantial salary, good personnel policies. Contact Marie C. Hickey, Chief Physical Therapist, St. Joseph Mercy Hospital, Pontiac, Michigan.

TWO registered physical therapists for STAFF positions in a new, rapidly expanding department in a 5,000-bed institution for the mentally retarded. New graduates acceptable. Range $387-$473; salary open. Excellent employee benefits. Sixty per cent cerebral palsy, 40 per cent orthopedic and other. Located in beautiful Rock River Valley. Contact: Superintendent, Dixon State School, Dixon, Ill.

PT to assume STAFF POSITION at cerebral palsy outpatient center. Expansion program starting to more than double present area. Modern ranch-style building. Caseload soon to include all pediatric disabilities. Starting salary around $4,500 depending on experience. Liberal holidays, paid vacation, sick leave, 5-day week—8:30 to 4:30. For further information contact Vincent J. Privitera, Director, Cerebral Palsy Treatment Center, 808 Crockett, Amarillo, Texas.

SUNNY SOUTHERN CALIFORNIA county hospital has a vacancy for a physical therapist. Fully equipped department, paid vacations, sick leave, health insurance plan, and retirement program. Starting salary $343, increases to $417. Excellent nearby desert, mountain, and seashore recreational facilities. Write San Bernardino County Civil Service and Personnel Department, 236 Third Street, San Bernardino, California.

QUALIFIED PHYSICAL THERAPIST to operate an itinerant cerebral palsy program. Excellent salary and expense arrangement. Applicant should have some cerebral palsy experience and be prepared to travel extensively. For interview write to Mr. A. W. Sparks, Director, New Mexico Elks Association Cerebral Palsy Program, 2211 Lomas Blvd., N.E., Albuquerque, New Mexico.

WANTED: PHYSICAL THERAPIST (female) for full or part-time work in orthopedic surgeon's office. Write to Daniel B. Eck, M.D., 144 South Harrison Street, East Orange, New Jersey.

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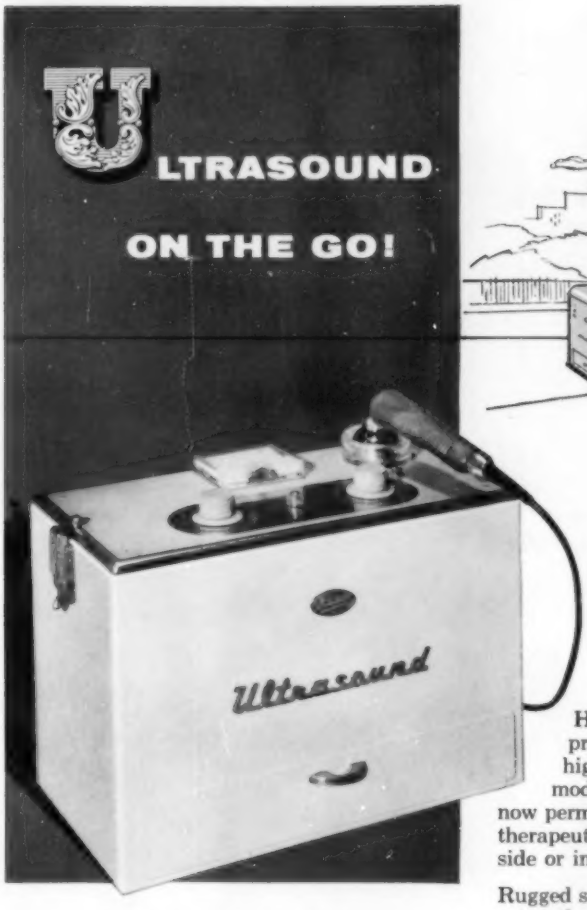

BURDICK UT-4 ULTRASONIC UNIT

Here is the answer to the busy practitioner's need for a compact, high-quality ultrasonic unit at a moderate price. The Burdick UT-4 now permits the wide use of this valuable therapeutic modality at the patient's bedside or in your own office.

Rugged strength is built into the UT-4 to meet the rigors of portable operation. Weighing only 25 pounds, your nurse can carry it easily . . . operate it easily, too, with Burdick's simplified controls.

The UT-4 meets all four requisites of an ultrasonic unit — effective power, rugged portability, simplified operation and moderate cost. Your further guarantee of dependable performance is the uncompromising high standard of Burdick quality and workmanship.

SPECIFICATIONS

Total output	15 watts
Effective radiating area	6 square centimeters
Effective intensity	2½ watts per square centimeter
Dimensions	16" x 12" x 9"
Weight	25 pounds

The UT-4 is sold through 296 qualified medical supply houses throughout the United States. Over 1,500 Burdick sales representatives are backed by *complete* service facilities for all of your Burdick equipment.

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